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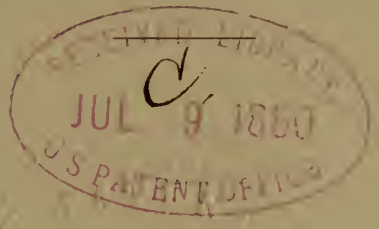
THE UNITED STATES HOMŒOPATHIC PHARMACOPOEIA.

FIRST EDITION.



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PREFACE.

It is a singular fact, that, although the number of Homœopathic physicians in the United States equal those of all the rest of the world, up to the present there has been no American Homœopathic Pharmacopœia. Some years ago an enterprising publisher announced one, and sought the endorsement of the American Institute of Homœopathy. A committee was appointed to examine and report. Next year it recommended that the Institute prepare an authoritative work. From year to year the report has been "progress!" At the World's Convention, in Philadelphia in 1876, the work was referred to an international committee to report in London in 1881. Pending this delay, the profession have become impatient, and this manual has been prepared to supply the pressing need.

THE UNITED STATES HOMŒOPATHIC PHARMACOPŒIA does not claim to be an exhaustive work, but will doubtless prove a convenient handbook. It has been compiled largely from the ancient and modern European works on this branch, while the preparation of the newer remedies found in the Encyclopædia of Materia Medica, New Remedies, etc., have been added, making all conform to the established principles of Homœopathic Pharmacy. Some questionable articles have been omitted, or simply admitted by name. Notwithstanding

the greatest care we regret to notice a few errors and omissions, but in the main this work, we believe, will be found reliable, and to contain valuable information not given in any other work.

To the pharmacists, chemists and physicians, who have contributed to make this work modern and practical, and especially to those through whose hands the MS. has passed, are hereby accorded the sincere thanks of

THE PUBLISHERS.

INTRODUCTION.

The distinguishing features of Homœopathic Pharmacy are the careful selection, preparation, attenuation and preservation of single remedies—separate, distinct and uncontaminated.

Homœopathic Pharmacy arose from necessity. When Hahnemann's experiments unfolded to him the law of cure—"*similia similibus curantur*"—he found that the single, similar remedy, to be reliable, must be selected with the greatest care. The doses of drugs then in vogue, produced, he soon discovered, decided and long lasting aggravations, and he set about devising means of diluting them, instead of resorting to the method of attempting to control the action of one by introducing another, as is done in polypharmacy. Fortunately he was a skilled chemist, and a careful student of drug action, or Homœopathy would doubtless have been swamped in its infancy. He carefully expressed the juice of the fresh plants, diluting this with water, and adding alcohol to preserve it. For the insolubles he devised the method of trituration with sugar of milk. To preserve these remedies pure from contamination the greatest care was necessary.

At the head of each remedy in the Materia Medica Pura, minute and careful directions were given how each should be prepared. As the collection of proved remedies grew from a score to hundreds, and the number of physicians who practiced Homœopathically increased in

Germany and other countries, and the demand for these remedies multiplied, a separate work on Homœopathic Pharmacy became a necessity. The first reliable one on the list was prepared by Gruner; prepared, we believe, by the sanction and under the supervision of Hahnemann himself. Since then several similar works have appeared in Germany, France and Great Britain.

No one needs to know the quality of the implements or instruments of his art, more than the physician. Not only the life of the patient in hand may be saved by the excellence of the drug which he is about to use, or be lost by its improper preparation, but similar cases may arise in his own practice, or in that of others to whom he may relate the case, in which the turning point may be the success or want of success of this drug in this one case.

Hence, though the physician may, and with good reason, have the greatest confidence in his pharmaceutist, he never can be so sure of any preparation which he obtains from another as that which he makes himself, and a physician whose engagements permit it, cannot do better than prepare his own attenuations from the crude drug. The great number of indigenous plants which are now used in the practice of Homœopathy puts this quite within the reach of all country practitioners at least.

For the use and behalf of those who concur in these sentiments, the following work has been prepared. In its preparation it has been necessary to suppose that the practitioner had, at least, an elementary knowledge of chemistry and botany. The various mineral and vegetable products are described minutely enough for the purposes of one thus informed. A more extended chemical or botanical account of the various drugs, would have increased the size of the book beyond all just proportions.

In order to conform more closely to long established methods of procuring the tincture by maceration, the quantity of menstruum has been retained as given in older works. And this requires explanation. Where two parts of alcohol to one of the plant is directed, the pharmacist should see that sufficient menstruum is added to replace that which is lost by evaporation or retained by absorption, to secure the two parts of tincture after maceration. This direction is necessary from the fact that the "fresh plant," in case of foreign growths,

does not mean the "green plant," and hence too much menstruum will be absorbed in the process.

A word about active principles introduced in this work. Organic Chemistry has developed the fact that the medicinal nature of plants depends on a natural combination of definitely organized constituents. Most of these have strong chemical affinities, unalterable composition, and unite with inorganic agents to form new compounds. There are vegetable acids, bases (alkaloids), and salts; also substitution products, and highly organized principles related to hydrocarbons; and extractives not ultimately analyzed, yet of powerful medicinal action.

It is a recognized, but not confirmed principle in Homœopathic medication that the preparation of the entire portion of the plant containing these extractive principles is necessary to get the full individual influence of the drug, and that not a single principle should be removed. In fact, that an active principle alone cannot represent the *tout ensemble* of the medicine. Hence the Homœopathic School uses tinctures almost exclusively, even objecting to removal of chlorophyl, and does not encourage the use of the stronger alkaloids. This view is based on sound reasoning, and should obtain official recognition—with a few readily recognized exceptions.

The active principles are given in this work, to a certain extent, for substantial reasons. Every physician desires to *locate* the source of purchasable drugs, and naturally turns to his Pharmacopœia. Again, the solvent, time, and process of maceration is conformed to the nature of these active principles: Resinous principles require alcohol, oils (fatty), require ether; gums, water, and crystallizable products either or all of these menstrua. There are also specific uses for the uncombined principles, as atropine for the eye. Lastly, as connected with the development of science and exact knowledge, it is better to have a comprehensive view of the agents in our hands.

There are certain principles in many plants not mentioned in the descriptions, which each will recognize for himself, as tannin in barks, gums in minor quantities, etc.

The drug having been thus distinguished from others which are similar, concise directions are given for its preparation, according to the teachings of the Homœopathic School. One can readi.y see, at a glance, how desirable is uniformity of preparation in this respect, and

it is to be hoped that the reader will find in the following pages, that there has been no swerving from the Homœopathic standard. The best authorities have been consulted in its preparations, and it is committed to the profession, with the confident expectation that its directions will be correct and trustworthy.

PRECIPITATED METALS.

For trituration, it has been the custom to direct the metal precipitated from chemical solution. With some metals the chemical process is not advisable, and the fine filings of the metal is equally or more advantageous—notably so in the case of copper.

GENERAL PHARMACY.

In all matters pertaining to Homœopathic Pharmacy, the utmost exactness should be observed, both in the selection of medicinal agents and in their preparation, so that doubt may not afterward arise in regard to their reliability.

In the first place, the strictest cleanliness should pervade the apartment in which the operations are carried on, as well as the cases, etc., in which the various implements are contained. Fuming chemicals, and other strong, odorous substances, that a thoughtful man would exclude, should find no place in a pharmacist's laboratory.

The utensils, when not in use, should be covered to prevent the accumulation of dust, cobwebs, etc., and thoroughly dusted or washed just previous to use. These should be cleansed immediately after using, and not permitted to remain until next wanted, as it is much more difficult to remove dried or encrusted matters, after a time, than when these are recent; besides, all such matters are apt to decompose and become offensive to sight and smell.

Boiling water is of the first importance for ensuring perfect cleanliness, as it is not only more speedy, but more certain in its effects. In order that any lingering traces chancing to remain may be destroyed, a small portion of alcohol should be poured into all open vessels, lighted and allowed to burn itself out, rinsing again with hot water. Mortars, in which strongly scented substances, such as musk, camphor, asafœtida, castoreum, sulphur, etc., have been trit-

urated, should, in addition to the foregoing, be exposed to the heat of an oven, that the odorous particles adhering in spite of repeated washings, may be entirely dissipated. The same precaution should be observed with regard to the pestle; horn spatulas should be rapidly rinsed with hot water, and then plunged into cold water. The same bottle should not be employed to contain two, three or more substances in succession, and the same care applies to corks

It may appear that such care is extreme and unnecessary, but when it is remembered that the addition of a few equivalents may so change the chemical nature of a substance that it is necessary to give it another name, a due precaution, it is readily seen, becomes essential. There are cases on record in which medico-legal evidence, affirming the presence of certain poisons in the stomachs of those dying suddenly, has been overthrown by demonstration of the fact that impure chemicals were employed in the examinations made. Besides all this, we claim a scientific precision in our system of medicine, a claim in which our pharmacy should equally share, inasmuch as the success of the former depends in a large measure upon the exactness of the latter.

UTENSILS NECESSARY.

The utensils for pharmaceutical purposes are numerous and varied, according to the requirements of the pharmacist, but as the scope of this work does not permit of extended detail in everything pertaining to this art, a brief allusion will be made only to such as are indispensable. These are:

Mortars.—These should be of what is known as wedgwood ware, glass, iron or agate. This implement is for the purpose of bruising, powdering or triturating medicinal substances in order to fit them for medical use. In this manner fresh, succulent plants are beaten to a pasty mass for further processes; dried vegetable substances are brought to various degrees of comminution; animal, mineral or chemical substances are reduced to powder, and the attenuation of drugs by trituration effected.

Graduate Glasses.—These are glass vessels, usually (when small) in the shape of an inverted cone, upon the side of which is an indelibly marked, graduated scale, divided into drams, ounces, and frequently minims. These are for the purpose of measuring definite quantities of fluid.

Spatulas are flexible blades used for scraping together substances that are undergoing contusion or trituration, carrying powders, etc. They are of steel, horn, bone, or ivory, the two latter being preferable,

for the reason that metal is often acted upon by vegetable acid, and horn is too soft and is warped by heat.

Evaporating dishes should always be porcelain lined.

Glass or porcelain *funnels* are used to support the paper or muslin cloth during the process of filtration.

Vials should be of amber colored glass, or else covered with black paper, so that the actinic rays of light may be excluded. It is not infrequent that well made tinctures or dilutions are rendered worthless by the chemical rays inducing material changes in them, and hence the necessity of precaution.

Glass rods are of use to mix fluids more intimately, with the exception, however, of hydrofluoric acid, which attacks the glass itself.

Corks should have a firm, even grain, and be entirely free from cracks and pores. A porous cork allows a great evaporation to take place, and as a consequence the tincture or dilution undergoes constant change, becoming more concentrated with the loss of its alcohol. What are known as velvet corks are to be preferred, not only on account of their texture, but their tapering form allows of a more perfect adaptation to the neck of the vial or bottle. They are far superior to glass stoppers, except in case of corrosive liquids.

Each vial should be used for a single drug, and no other; this should make a rule to which there are no exceptions. To free the interior of vials from dust, a piece of soft, unprinted paper is to be wrapped around the end of a stick, and rubbed over the interior surface until all has been removed. Broken corks that have fallen into the vial can be extracted by means of a wire, bent at one end in the form of a hook; a loop of twine will often accomplish the same purpose.

The Scales.—These should be evenly hung, and so placed that any drafts of air will not influence their motions. Previous to use they should be wiped with a soft cloth, the beam especially, as dust will frequently interfere with its oscillations. The bearings, also, should be freed from any accumulations that may gather. The scales should be tested before use to see whether they balance. A powder paper should receive the drug, and not the pan; this should be equalized by another paper of the same weight in the other pan.

The foregoing articles are at once the most important and essential, and with them the pharmacist is enabled to prepare the greater number of medicines used in Homœopathy. It is more convenient, however, to possess two or more of each, and in varying sizes. Mention

will be made in their proper places, of other implements that the requirements or ingenuity of the amateur pharmacist may supply.

WEIGHTS AND MEASURES.

There are two systems of weights used in pharmacy, respectively known as avoirdupois and troy weights. While it is true that the former is used in drug commerce, the latter is the only recognized standard in the laboratory. Accordingly, the following table is the one to be adhered to in all pharmaceutical operations:

Troy Weight.

Twenty grains equal - -	1 ℈ - -	one scruple.
Three scruples equal - -	1 ℥ - -	one dram.
Eight drams equal - - -	1 ℥ - -	one troy ounce.
Twelve ounces equal - - -	1 ℔ - -	one pound troy.

The troy ounce contains 480 grains, while the avoirdupois has but 437½.

In measuring fluids the wine pint is the standard.

Wine Measure.

Sixty minims equal - -	1 f℥ - -	one fluid dram.
Eight drams equal - -	1 f℥ - -	one fluid ounce.
Sixteen ounces equal -	1 O - -	one pint.

The minim is a unit adopted in view of the varying size of the drop, and the character O, (the abbreviation of Octavius), denotes the eighth part of a gallon. The gallon is not mentioned, but greater quantities than sixteen fluid ounces are designated as so many pints.

French or Metric System.

The French or metric system, now used in the marine hospitals of this country, is based upon the ten millionth part of the earth's quadrant, and the unit thus obtained is called a *meter*.

A cube whose edge measures the tenth of a meter is a *litre*, and the weight of a cube of rain water at its greatest contraction, its edge being the hundredth of a meter, is a *gramme*.

The prefixes are both Latin and Greek; the former decrease the value, the latter increase it.

Measures of Weight.

	Troy Grains.		℔	℥	℈	Grs.
Milligramme - -	.0154					
Centigramme - -	.1543					
Decigramme - - -	1.5434					
GRAMME - -	15.4340					
Decagramme - -	154.3402	equal to	0	0	2	34.3
Hectogramme - -	1543.4023	equal to	0	3	1	43.4
Kilogramme - -	15434.0234	equal to	2	8	1	14
Myriagramme - -	154340.2344	equal to	26	7	4	20

Measures of Quantity.

	English Cubic Inches.		Apothecaries' Measure.
Millilitre - -	.061028	equal to	16.2318 minims.
Centilitre - -	.610280	equal to	2.7053 fluid drams.
Decilitre - - -	6.102800	equal to	3.3816 fluid ounces.
LITRE - - -	61.028000	equal to	2.1135 pints.
Decalitre - - -	610.280000	equal to	2.6419 gallons.
Hectolitre - -	6102.800000		
Kilolitre - - -	61028.000000		
Myrialitre - -	610280.0000000		

It will be noticed that the standard is increased and diminished by the decimal scale.

CHEMICAL MANIPULATION.

In the manufacture of chemical substances there are certain processes to which these are submitted, and as frequent allusion will be made to them in the course of this work, a synopsis of such will be given here.

Distillation.—This consists in vaporizing a liquid contained in one vessel, and conducting the heated vapor by means of a tube into another, where it is condensed, and passes into the liquid state. This is generally accomplished by means of a retort, (a semi-globular implement, having a long, continuous beak), which is inserted into a globular vessel, the receiver. When distillation is carried on upon a large scale, the retort is changed in shape and called a still; the beak very greatly extended and arranged in successive coils, the worm. The process of distillation separates single substances, or certain compounds, from others, usually held in solution. Solids are sometimes distilled in similar manner. The products may be spirituous, oily, or gaseous, and may not even be present until heat is applied.

Precipitation.—This is the deposition of substances from solution, and it usually occurs in a pulverulent form. It is the result, (1) of a chemical change, by which the dissolved substance is rendered insoluble; (2) by a modification of the solvent—as the addition of alcohol to a watery solution will throw down more or less of those substances naturally insoluble in alcohol; (3) by a reduction of the solvent, as by evaporation, and (4) by a change in the temperature of the solvent.

Crystallization is where precipitation results in the formation of regular geometric shapes, and more frequently follows a reduction in the temperature or volume of the solvent.

Decantation.—This is effected by allowing the solid portions to subside, and pouring off the liquid portion without disturbing the residue.

This is easily accomplished by holding a glass rod in a vertical position against the lip of the vessel in which the fluid is contained. The siphon, a tube bent in two unequal portions, is another means of accomplishing the same purpose.

Filtration.—This is understood to mean the separation of fluids from solids, and is more thorough than decantation. It is accomplished by spreading unsized paper, ("filtering paper"), or muslin cloth, in a funnel, and pouring the mixture to be filtered upon it. The liquid separated in this way is called a filtrate. Acid and corrosive liquids should be filtered through pyroxalin, or asbestos, bedded at the top of the funnel tube.

Sublimation.—In the distillation of solids, and a few liquids, the distillate is deposited as a *solid*, in which case the process is called sublimation. In subliming, the vapor is usually condensed and deposited very quickly, and in the crystalline form.

VEHICLES USED IN PHARMACY.

The drug in its crude state is often unfitted for administration, inasmuch as it is apt to be too strong to administer as such, or the reverse where it is exceedingly diffused, as in many plants. To obtain the fullest virtues of the medicinal agent, and preserve them, and at the same time have a convenient and manageable form for administration, certain menstrua or vehicles are employed; these are known as solvents and triturates.

Compounded preparations find no place in Homœopathy; indeed it is one of our principles that only the uncombined drug should be used, thus avoiding complex chemical changes which must occasionally take place when two or more are mixed together. The menstrua or vehicles must therefore be simple, non-medicinal substances.*

SOLVENTS.

Distilled Water.—Although water is usually regarded as the symbol of purity, it seldom, perhaps never, occurs in a state of absolute purity. Its well known solvent powers cause it to be charged, more or less, with neutral salts, chlorine compounds, metals and a great variety of foreign matters; even rain water, particularly that falling in the early part of a severe thunder storm, contains a certain portion of nitric acid, ammonia and organic matters, gathered in its descent.

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*Note.—It may be objected that alcohol is a medicinal substance, but as alcoholic solutions yield unchanged the drug held in solution, there is no evidence of chemical transformation.

River and lake waters contain a large proportion of substances in solution, both organic and inorganic. With such a varying nature it becomes necessary in pharmacy to use water that has been deprived of all extraneous matters.

It should not be obtained from the ordinary drug store for the reason that it is furnished from an impure still, from which various matters have been distilled from time to time. Moreover it is repeatedly exposed to an atmosphere laden with floating drug particles and chemical vapors; thus in time many substances will have been dissolved in it, totally unfitting it for pharmaceutical use. A good article can be procured by subjecting ordinary water to distillation in a glass retort. The retort should be partly filled with water, and placed over the flame of an alcohol lamp. After the air is expelled and the vapor passes over, the junction of the retort and receiver should be closed with a lute of plaster of Paris. The receiver should be surrounded with cloths constantly wetted with cold water, so as to favor condensation. It is well to reject the first distillate that passes over. The novice, with improvised apparatus, will find the operation, as simple as it appears, exceedingly tedious and unsatisfactory. Practically, the purest water in the world is that obtained in an open space during a rain storm by collecting in clean glass or earthenware dishes, after it has been raining ten or fifteen minutes. The gases are readily given off, *if there are any absorbed*, and the other impurities are far less noticeable than in the product of a small still. Even delicate chemical tests may be performed with it, especially if it is heated before bottling.

Alcohol (Specific gravity, 81.7) —This contains but a small per cent. of water, having been rendered nearly anhydrous by rectification. As it attracts water from the atmosphere it should be kept in a glass stoppered bottle in which the stopper has been *accurately ground*. The per centage of water is easily obtained with the alcoholmeter.

Fusil oil, (*amylic alcohol*), produced by distillation, is detected by a small quantity of a solution of nitrate of silver added to the suspected alcohol, which is then exposed to bright sunlight for twenty-four hours; at the expiration of that time, if fusil oil is present, it will have been precipitated as a black powder.

Dilute Alcohol.— Is obtained by mixing together equal parts of alcohol and distilled water.

Water should not be used for the permanent solution of drugs as it is prone to many changes and alterations, such as the absorption of

gases, development of vegetable organisms, (confervæ), etc. But there are substances that are soluble in water only, therefore it becomes necessary to prepare all such, first with water, afterward combining this aqueous tincture with dilute alcohol. (See page 29.)

The word "alcohol" in this work refers, always, to a grade of sp. gr. 81.7, and such as is usually purchased at the Pharmacy as Homœopathic alcohol. "Dilute alcohol" refers to the grade 92 to 94 sp. gr., obtained by adding an equal amount of distilled water to the grade "alcohol."

Ether.—This is not as reliable a vehicle as we could desire, since it is liable to chemical alterations when kept for a length of time, but as in the case of water there are medicinal agents that only yield their virtues to ether. However, the list is very small.

THE TRITURATE.

This division of the menstrua is limited to a single substance, namely,

Sugar of Milk.—This is made from the whey of milk and is chiefly manufactured in Switzerland and the Bavarian Alps. It is received in this country in the form of crystalline cylinders, the axis being a cord or stick upon which the crystals have been deposited. Care should be exercised when procuring it in powder form to ascertain whether it is free from starch, its most frequent adulteration. This sophistication is readily detected by adding a few drops of tincture of iodine to a solution of the suspected substance, when, if starch is present a blue color will be at once apparent. Another very frequent adulteration is sulphate of lime, (gypsum or plaster of Paris). It may be detected frequently by the smell, but certainly by dissolving about a teaspoonful in a pint of hot water. The lime will remain as a white sediment.

COLLECTION OF PLANTS AND TREATMENT OF DRUGS.

It is of importance that each and every plant should be gathered only from those localities to which it is indigenous, and a certain regard should be paid as to its surroundings. Thus, plants whose habitat is in dry soil, will have their virtues modified when growing in a moist or wet one, and *vice versa*. If accustomed to hilly or mountainous situations their toxical properties will be changed by transplanting them to the low lands, while a tropical or semi-tropical plant or tree becomes greatly modified in a temperate climate. Again, those species flourishing upon calcareous or magnesian soil will have

their properties lessened when cultivated in rich loam, and should they in a state of nature prefer sunny slopes, their virtues will deteriorate in shady situations.

It is seldom that all parts of a plant are equally rich in the same qualities or quantities, therefore certain parts are used to the exclusion of the rest; in one the bark is the more valuable, in another the leaves, flowers, or fruit, as the case may be. These in turn vary in efficacy at different times and seasons, and certain rules are necessary to be observed, so that collections may be made when the activity of each is at its height. This rule is observed in all parts of the world from which vegetable drugs are exported, and that the same may apply in the case of our indigenous plants, the following recommendations are made:

If the whole plant is to be used, the most favorable time for gathering is when this is partly in flower, partly in seed.

Should the leaves be the part desired, they should be taken just before, or during the early part of the flowering time, with the exception however of biennial plants, when the second spring, during the formation of the flower, is the proper time.

When flowers only are required, the collection should be made when these are partly in bud, partly expanded.

Seeds and fruits should be plucked when fully ripe, although there are exceptions to this rule.

Bulbs are ready to gather as soon as the new one is perfect; this is usually when the leaves begin to decay.

Bark ought to be stripped off late in the autumn, rejecting dead epidermis, decaying tissue and portions infested by insects.

Body wood is to be cut in the first days of spring before the sap rises, the tree being neither very young or very old. It should be reduced to chips, shavings or sawdust, the tools being free from rust or grease.

If the young shoots are the necessary part, the most suitable time is early in the autumn and should be taken only from a vigorous specimen.

Roots are only to be gathered in the autumn after the leaves have fallen. The reason for this is obvious; when the foliage is most abundant, the juices rapidly pass through the root and ascend to circulate in the leaves, and at the same time a large proportion is diverted in the formation of woody tissue. But when the leaves have fallen and growth has nearly ceased, the unemployed fluids accumu-

late at the roots and in the bark. The converse is true of the leaves, since they are most valuable when the root is least so.

No collection should be made during the prevalence of a long wet season, for the reason that the oils, resins, volatile principles, etc., are not secreted as they are when the atmospheric state is otherwise.

In regard to the alkaloids, as well as some chemical substances, the processes by which these are obtained are too difficult, complicated and expensive for the physician or pharmacist to engage in; the fact that they are made by a manufacturing chemist of good repute is sufficient guarantee for their worth and purity.

Animal matters are usually obtainable in a state of purity, but very old specimens ought always to be rejected as they are either inert or greatly deteriorated.

The most convenient form in which the metals are used is the precipitated, and one readily obtainable.

TREATMENT OF DRUGS.

All substances used in medicine require a reduction to the comminuted form previous to undergoing the different processes by which they are made to yield their inherent virtues. This is especially the case in dried vegetable specimens. These should be procured whole if possible, and not in the granular or powdered state. In the first place the opportunity for adulteration is very much increased and generally improved, and in the second, volatile matters, upon which the character of the drug depends, are dissipated, the remainder being either greatly weakened or wholly inert. There are other potent reasons, but these are of sufficient weight to commend themselves.

It is recommended that specimens be converted into tinctures or triturations as soon as it is possible, in order that nothing be lost either by age or decomposition, but if delay is unavoidable, a proper attention should be paid towards wrapping, boxing and placing in a cool, dry place, until such time as may be convenient for their preparation.

Dried roots, herbs, or flowers are sufficiently brittle to be pounded in the mortar, and the same is true of most animal and crystalline substances. During this process a dust may arise, composed of very fine particles of the drug, which irritates the eyes and nostrils; the latter should have one or two folds of a handkerchief tied loosely over them, the operator at the same time standing with his back to a current of air. The top of the mortar should be covered with a clean loose cloth allowing a sufficiently large hole in the centre for the pestle. When a

certain amount of powder gathers in the mortar, it should be emptied out, as the action of the pestle is hindered by its presence.

Camphor in its natural state is difficult of reduction to an even powder, but this is readily accomplished when a few drops of alcohol are added; it may also be obtained in this form by precipitating it from an alcoholic solution with successive portions of water, separating the precipitate on a filter, and then drying it.

Some of the gum resins are but slightly soluble in alcohol and should therefore be treated with dilute alcohol, in which they are readily soluble.

Plants should be thoroughly dusted with a cloth, freed from webs, insects, and cocoons, as well as any soil adhering to the roots and then rapidly washed.

THE PREPARATION OF DRUGS—TRITURATIONS.

Trituration is that process by which the drug particles are still further broken up and isolated. This is accomplished by means of an inert substance, viz., sugar of milk, it being mainly employed in the case of metals, a majority of chemical salts and dried vegetable substances.

There are two scales of attenuation recognized, centesimal and decimal, the former having been instituted by Hahnemann, the latter by Dr. Hering. Whenever a trituration is alluded to without mention of the scale, the centesimal is to be understood, the decimal being always designated by the Roman numeral x.

The preparation of a trituration upon the centesimal scale is accomplished as follows:

The drug, previously reduced to a fine powder, is weighed in the proportion of one part to ninety-nine of sugar of milk, (grains, scruples or drachms, according to the quantity desired). Placing this in a mortar, one-third of the sugar of milk (already weighed), is thoroughly mixed with it, submitting the two substances to a circular grinding motion under the pestle for six minutes; it is then scraped from the sides of the mortar and from off the pestle with a spatula, repeating the motion for another six minutes, after which the powder is scraped again to the center of the mortar. The second third of the sugar of milk is now mixed with it, and the trituration proceeded with, twice, as before, at the end of which the third and remaining sugar of milk is added and the process repeated, and the grinding of the portion continued one hour from the beginning. This is the first trituration.

The second is made by taking one part of the first trituration and mixing it in a mortar with ninety-nine parts of sugar of milk, and so on with the higher, and proceeding in exactly the same manner as with the first trituration. The third is made from one part of the second, and in the same way as the preceding trituration.

Triturations upon the decimal scale are made in a similar manner, with the exception, however, that the scale is ten instead of one hundred. Ten parts of the crude pulverized drug are triturated with thirty parts of sugar of milk twice for six minutes, scraping together each time as directed under the centesimal scale; then add another thirty parts of sugar of milk; proceed as before and mix another thirty parts of sugar of milk, triturating as before directed. This is the first decimal trituration marked 1x. The second is made with ten grains of the first triturated with three times thirty parts of sugar of milk; this gives the second trituration, written 2x. The third is prepared with ten parts of the second trituration and three times thirty parts of sugar of milk, and is written 3x.

TINCTURES.

These are prepared in several ways:

Expression.—For this process the plant should be fresh and very juicy. Cutting that portion of the plant directed for use into very small pieces, it is bruised to pulp in a mortar, then enclosed in a loose muslin bag, and subjected to great pressure as in a screw press. The expressed juice is to be mixed with an equal part, by weight, of alcohol, and allowed to stand in a cool place for eight days, at the end of which time it is filtered and is ready for use. All succulent plants do not yield their active principles with the juice, in which cases expression is not of value.

Another method of making a tincture by expression is one adapted to plants less rich in juices. The portions required are minced and weighed. The dilute alcohol necessary is two-thirds of this weight. The plant is then bruised in the mortar, adding from time to time a small portion of the alcohol, until the contents of the mortar have assumed a pasty consistence; the remainder of the alcohol is now added and thoroughly mixed, and the whole submitted to pressure as in the former instance. The tincture is then bottled, allowed to stand for a week, and then filtered.

Maceration.—If the substance is not in thin, frail leaves or fibres, it should be coarsely powdered, in a clean mill or mortar (iron). Shaving thinly, chipping or mincing finely, is fully as serviceable as pow-

dering. After this reduction it is covered with a certain quantity of alcohol, dilute alcohol, or water, according to specific directions, for from one to two weeks. The time required depends on the nature of the drug. If compact, solid, heavy, hard, dry, of slow growth, etc., two weeks are required. If light, porous, fibrous, quite free from resinous principles, requiring aqueous solvent, gummy, fresh, etc., one week will answer. A little *dilute* alcohol should be added to the *full amount* required when water is the solvent, as a preservative. Always dilute the alcohol before adding to an aqueous solvent. When maceration is complete, filter with paper, and bottle.

A *saturated tincture* is a saturated solution of the active principles. A certain amount of prepared drug may be divided into four parts, or more, and one-fourth the solvent required for the whole amount used to macerate the first part. After the usual time, it is decanted on to another fourth, to macerate full time. Continuing through the four parts there remains a tincture less in quantity, but of very great strength. Continue the process by throwing away the debris of the first of the series and adding a fresh quantity for the last maceration, each time. By this formula the *drug debris* may be utterly exhausted.

Percolation.—In the larger pharmacies percolation is extensively used. A percolator is a hollow, glass or tinned-metal cylinder, with a funnel at the lower end. At the junction of the cylinder and funnel is a false bottom consisting of a colander, or coarse sieve. Upon this is laid thin muslin, and then a light layer of the drug, (reduced with its solvent to a thin paste, in a mortar), followed by the remainder as soon as the first portion is evenly placed. A muslin cloth covers the mass. The solvent is then poured on in divided quantities. If skillfully performed, it will slowly trickle through, usually *exhausting* the drug before the last portion has reached the funnel. A clean lamp-chimney makes a very convenient percolator for small quantities.

Color.—Tinctures vary in their color in proportion to the amount of chlorophyl in the plant. The method of production occasions some variation. Condition of the drug, especially barks and resins, modify it. In this work the color which may be expected, in the common tinctures, is given. The chlorophyl, and other inert organic matters, are removed by simple chemical agencies, by some pharmacists, producing colorless tinctures.

Aqueous Solution.—The basis for all solutions of chemical substances, (denoted in Homœopathic literature by the word " crude,") is the pure drug, (solid, or liquid if that is its normal condition). The first dilu-

tion is a solution made with distilled water, in the proportion of one to nine, (decimal), or one to ninety-nine, (centesimal). The third attenuation (dec.) or second centesimal may be made with the addition of a small amount of dilute alcohol. Next higher with dilute alcohol, but alcohol, (sp. gr. 82), should never be used until the fifth decimal, and is then of doubtful utility as compared with the dilute.

The "*mother tincture*" of a solid, soluble chemical, (insolubles have no tincture,) is a *saturated* solution, that is, all that the menstruum will dissolve. The fifth decimal and third centesimal triturations of drugs, soluble or insoluble, may be transferred to water, and never under these attenuations unless the crude drug was very soluble in water.

A few "chemical" tinctures are made with alcohol, as Ferrum mur.

DILUTIONS.

This is a means of attenuating tinctures and solutions, and is carried on upon both the decimal and centesimal scales. When it is desired to attenuate or dilute liquid medicines upon the decimal scale, one part of the tincture or solution is mixed with nine of the vehicle —water, dilute alcohol or alcohol. This is strongly shaken or succussed from one hundred to two hundred times, in a vial, which then contains the first attenuation, called "dilution" to distinguish from "trituration." One part of this is mixed with nine parts of the vehicle and succussed as before, being then the second attenuation or dilution. The process may be carried to whatever degree is desired. To transfer triturations to dilutions, one part of the triturate is mixed with nine parts by weight of distilled water, and succussed in a vial, as before. If the triturated drug was soluble in water, the transfer can take place with any attenuation. But if but little soluble, or if insoluble, the transfer to dilution must not take place before the fifth decimal or third centesimal. (See above, under "*Mother tincture.*")

The centesimal transfer is the same process as decimal, substituting ninety-nine for nine parts of water.

There are three grades of attenuations known, viz.: The low, high, and higher or highest. The low comprises the first six attenuations, the second includes the thirtieth and two hundredth, and the third all above the second class. These divisions have a general acceptance.

Machinery has been employed to facilitate the preparation of the higher dilutions, by Drs. Dunham, Fincke, Swan, Skinner and others.

PRESCRIPTIONS.—DISPENSING.

As the Homœopathic physician is in most cases the dispenser of his own prescriptions, he is rarely called upon to write them. But as

there are times and occasions when this becomes necessary, it is well to observe certain rules, which guide the profession at large. In the first place, it should be remembered that there are often a number of varieties as well as species of a plant, and in such cases it is important to give the specific as well as the generic name. Thus: Eupatorium perfoliatum, eupatorium purpureum; cannabis indica, cannabis sativa; allium cepa, allium sativa; cicuta virosa, cicuta maculata; boletus laricis, boletus luridus, etc. The common or popular name should not be written, as these differ in different localities, to a confusing extent. The same rule holds good when prescribing minerals, metals, etc., unless the unmodified radical is intended. For instance, it is not sufficient to write calcarea unless oxide of calcium in its natural state is called for, as there are numerous combinations of lime; but it should appear as calcarea phos., calcarea carb., calcarea iodide, according as the phosphate, carbonate or iodide is desired. Compounds of arsenious or arsenic acids must be spelled out wholly, as any contraction of the words arseniate and arsenite will leave the constitution of the drug in doubt.

Physicians will abbreviate the specific name, and hence, some rule must be adopted to distinguish which salt is meant by the contraction where it may indicate two. The best rule applicable to the case is the following: Every contraction of a name which *may* end in *ate* or *ite* is understood as an *ate* salt. Of course, if there is no *ate* salt of the given radical, (base), then it refers to the *ite* salt. Example, as above, calcarea phos. refers to the phosph*ate*. In all cases where there are two or more salts of the radical and *similar* acids the *ite* and *ide* name must be spelled out: Calcarea phosph*ite*, calcarea sulph*ide;* the three forms resulting from a union of calcarea with phosphor*ic* acid, phosphor*ous* acid, and (*ide*) with sulphur alone.

This rule has the following prominent exception: Contractions of chlorine, iodine, bromine and fluorine, (the *halogens*), whether preceded by *hydr-o* or not, refer to *ide* salts. Merc. iod. or Merc. hydriod. refers to iod*ide* of mercury. The iod*ate* must be spelled out.

Immediately following the name of a medicine is the form. If the tincture, it is expressed by the twenty-first letter of the Greek alphabet, thus, aconite nap. ϕ, represents aconite tincture; if a dilution is required, sulphur 3x, sulphur 6x, sulphur 30, sulphur 200 or cc, respectively denote the third decimal, sixth decimal, thirtieth centesimal, and two hundredth centesimal, attenuations of sulphur.

In prescribing a trituration, the abbreviation "trit." follows the

degree and scale, as podophyllum 3x trit., signifying the third decimal trituration of podophyllum. The total amount required is then to be appended. Directions as to the quantity at a dose, frequency of repetition, etc., should occupy a space by themselves.

Dispensing.— Medicine prepared for Homœopathic uses is dispensed in three forms, viz.: Liquids, powders, and pellets or globules. The first is necessarily dispensed in vials or bottles. Of these, the patient is directed to mix a certain number of drops in half a tumbler of water, a teaspoonful to be taken as directed. Another and more portable means consists in mixing the same relative proportion in a four or six ounce bottle, with directions to take a tea- or tablespoonful at the necessary intervals. Powders consist of the triturations, tincture triturations, or sugar of milk on which the dilution has been poured and evaporated. Pellets or globules vary in size from a millet seed to one third of an inch in diameter, numbered according to size, from six to eighty. They are composed of pure cane sugar, are very absorbent, soluble in water, insoluble in alcohol. They are medicated by saturating with the tincture or dilution, but not dissolving them, as too much liquid will do, if there is water present.

The tincture trituration is sometimes used in dispensing the tincture in convenient form, but beyond this it has nothing to recommend it above the tincture. For instance, two ounces of sugar of milk are placed in a mortar, and one ounce of the tincture poured over it; the whole, rubbed to an even mass, is then allowed to dry, covered with paper to prevent the collection of dust. When dry, and rubbed to an even powder, a second ounce of tincture is poured upon it, and the same process repeated, after which it may be bottled for use.

Dilutions may also be dispensed in sugar of milk, by adding the liquid in the scale proportion, and grinding until dry; or thoroughly incorporated with a spatula, on a glass or porcelain slab.

SPECIAL PHARMACY.

ABELMOSCHUS MOSCHATUS.

MOSCHATUS. MUSK PLANT.

This evergreen shrub grows in Egypt, and the East and West Indie . The best seeds come from Martinique. The seeds are about the size of flax seed, grayish-brown in color, striated, kidney-shaped, possess an odor similar to that of musk and have a pungent spicy taste. On account of the resemblance the odor bears to musk, the seeds of this plant are sometimes employed in the adulteration of that article.

Active principles.— Not analyzed.

Part used.— The seeds.

Form of preparation.—Tincture made by macerating one part of the dried seeds, with five of dilute alcohol, for two weeks. Filter.

ABIES CANADENSIS.

HEMLOCK SPRUCE.

This well known evergreen is found in rocky and mountainous situations in the northern states and British provinces. It attains a height of sixty or seventy feet, with a diameter of one, two or three feet. The trunk is straight and covered with a rough bark, used in tanning, and contains a resinous juice. The foliage is delicate, half an inch or more in length, and arranged in opposite rows upon a central stem. The cones are small and situated at the extremities of the smaller branches.

Active principles.— Resin, volatile oil of hemlock spruce, Canada pitch, tannic acid.

Part used.—The bark and young buds.

Form of preparation.—Tincture made by macerating one part with two of alcohol for two weeks, and filtering.

ABIES NIGRA.

BLACK SPRUCE. DOUBLE SPRUCE.

This tree flourishes in the northern portions of this country, sometimes constituting whole forests, and frequently reaching a height of seventy or eighty feet. The head or top is pyramidal in shape, with dark green leaves, densely arranged, and half an inch or more in length. The flowers occur in bunches and are yellow in color. The cones are drooping, small, and vary from one to two inches long. All parts contain an abundance of resinous matter.

Active principles.—Resin and gum, astringent principles ("essence of spruce.")

Part used.—The young branches.

Form of preparation.—Tincture made by macerating one part with two of alcohol for two weeks, and filtering.

ABSINTHIUM.

ARTEMESIA ABSINTHIUM, WORMWOOD.

The mountainous districts of the New England states and stony, rocky soils in many parts of Europe, afford this plant. It prefers a stony soil and a dry, sunny exposure. The stem is two or three feet high, longitudinal, furrowed and expanding at the summit into a pannicle, upon which are disposed a number of round, brownish-yellow flowers. The lower portion of the stem sends up annual shoots each year, that perish every winter. The leaves are grayish-green above, silvery gray beneath. The whole plant is hairy, has a strong odor and possesses an intensely bitter taste. There are other varieties of the species, such as the A. vulgaris, A. abrotanum, etc., with which the above must not be confounded.

Active principles.—Source of absinthe, bitter principle (absinthin). oil of wormwood, resin.

Part used.—The fresh, young leaves, small branches and flowers, gathered in July or August.

Form of preparation.—Tincture made by macerating one part with two of alcohol, two weeks, then filtering. Color of tincture, deep yellowish-brown.

ACALYPHA INDICA.

This is a plant somewhat resembling the nettle, and growing in India, in the neighborhood of Calcutta.

Part used.—The whole plant.

Form of preparation.—Tincture made by macerating one part with two of alcohol and filtering.

ACIDUM ACETICUM.

ACETIC ACID.

$C_4 H_3 O_3$, and $C_4 H_4 O_4$, (crystalized.)

This acid is found to exist in the juices of many fruits and plant and also in minute quantity in certain animal fluids. It may be obtained by several methods but the source from which it is chiefly obtained in pyroligneous acid, a substance obtained in the destructive distillation of wood. To purify it, it is submitted to a series of processes which give a colorless, volatile liquid having a pungent smell and corrosive taste. This is known as glacial acetic acid.

Form of preparation.—Dilution with distilled water or alcohol.

ACHILLEA MILLEFOLIUM.

YARROW MILLEFOIL.

This plant is of frequent occurrence in fields, etc., in Europe and in this country from the New England states westward to the Pacific ocean, and northward to Arctic America. It is about a foot high, with a furrowed branching stem, the leaves being parted in so great a number of divisions and subdivisions as to suggest the name of millefoil. The whitish or rose colored flowers are arranged in a dense flat-topped coronet. The leaves and flowers have an aromatic, pungent taste and smell.

Dctive principles.—Volatile oil, achilleic acid achillein.

Part used.—The fresh plant.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Maceration in two parts dilute alcohol, one week and filter.

ACONITUM NAPELLUS.

MONK'SHOOD, WOLF'SBANE. COMMON ACONITE.

The home of this plant is upon the high mountain ranges of central and southern Europe, and Asia. It is also cultivated as an ornament. The root is spindle shaped, about the thickness of a finger at the top and tapers downward about three inches, giving off fleshy fibres. When full grown there are usually two roots, by which the stems are sustained, the other and younger furnishes those of the following year. The stems from two to six feet high are round, smooth and upright, with alternate, very deeply divided, dark green leaves. The flowers are large, violet in color, and arranged upon a spike-like raceme at the summit of the plant. The upper petal of these is helmet-shaped and bears a certain resemblance to a monk's cowl. The fruit is a pod-like capsule. The cultivated plant should not be used in pharmacy.

Form of preparation.—Tincture made by expressing the juice from the fresh plant beginning to flower, then adding an equal part of alcohol, then filter. Tincture dark brown color, bitter taste.

Tincture made by macerating one part of the fresh root in two of alcohol. (Tinct. acon. rad.) Filter.

Varieties.—Aconite feros. This is the *bish root* of India, and considered to be the most virulent of all the species growing upon the sides of the Himalayas. The aconite arthosa possesses the least acrid properties of any. A. lycoctorum is still another variety.

Active principles.—Aconitine, C_{27} H_{40} O_{10}, is the alkaloid from the root of the A. napellus. It is white, uncrystallizable, without odor, and having a bitter acrid taste, with a tingling sensation. It is a powerful poison, the one-fiftieth of a grain having repeatedly destroyed dogs and other animals. Aconella, a narcotic principle supposed to be isomorphous or identical with aconitine. Aconitic acid.

Forms of preparation.—Trituration. Alcoholic solution for dilutions.

ACTEA SPICATA.

HERB CHRISTOPHER. BANEBERRY

A perennial herbaceous plant growing in rocky woods and mountainous regions of all parts of Europe, being two or more feet in height. The root bears some resemblance to that of the black hellebore, is black externally, yellow and spongy within. The stem divides into two branches, one of which bears leaves only, the other, leaves and flowers. The latter are small, whitish and clustered upon a terminal raceme. The fruit is a black berry occurring in clusters upon a slender pedicel. The root is gathered in May.

Form of preparation.—Tincture made by macerating one part with two parts dilute alcohol, for two weeks, then filtering.

ÆSCULUS HIPPOCASTANUM.

HORSE CHESTNUT.

This tree is a native of northern Asia, but has adapted itself to the climate of Europe and this country, and reaches a height of forty to fifty feet. The leaves are digitate, leaflets obovate serrate, and of a dark green color. The flowers are pink and white, mottled with red and yellow, their huge pyramidal masses making a striking contrast to the dark green foliage. The fruit contains a large mahogany-colored nut, having a paler, roughened oval hilum. The kernel is white with a bitter, astringent taste. The Turks feed them to broken winded horses, and a superior quality of starch is said to be prepared from them.

Active principles.—Bitter principle esculin, (fixed oil by ether), fraxin and quercitron. Esculic acid, esculetin.

Part used.—Fresh kernel, with shell. Bark contains a distinct principle not proven.

Form of preparation.— Tincture of fresh nut, macerated two weeks in two parts of dilute alcohol and filtered. Triturations are better.

ÆSCULUS GLABRA.

FETID OR OHIO BUCKEYE.

This large tree is native to the bottom lands of the Ohio river and its tributaries, and is one of several varieties. The bark exhales a fetid odor which is characteristic of this variety. The leaflets are arranged in fives, are oval or oblong, and vary from one to three inches long. The flowers are small, yellowish white, and somewhat irregular. The fruit is about three-quarters of an inch long, covered with prickles when young, smooth later, and contains a small nut that is poisonous to cattle.

Part used.— The whole fruit.

Form of preparation.— Tincture made by macerating one part with two of dilute alcohol. Filter. A trituration is made with the nut entire.

ÆTHUSA CYNAPIUM.

COMMON ÆTHUSA. FOOL'S PARSLEY. GARDEN HEMLOCK.

An annual plant growing abundantly in old gardens and rich fallow soils, receiving the name of fool's parsley from a remote resemblance to that plant. It is distinguished from the garden parsley or the chervil, by the sickening odor developed when rubbing or bruising its leaves. The flowers of the fool's parsley are whitish, those of the common parsley yellow. It grows about two feet high, with a green striated stem. The leaves are arranged in numerous wedge shaped segments, three long pendulous leaflets arising from the base of the flower.

Part used.— The entire flowering plant.

Form of preparation.— Tincture made by macerating one week, one part with two of alcohol and filtering. Color of tincture light brownish-yellow; taste and smell nauseating.

AGARICUS MUSCARIUS.

FLY AGARIC. BUG AGARIC.

This fungus inhabits Europe, Asia, northern America, some parts of Scotland and Kamschatka, being most abundant in the last named country. The pileus, or top of the fungus is from three to seven inches broad, convex in shape, and varying in color from blood red to orange, occasionally it is white green or brown. They are usually gathered in the autumn and carefully dried, the small deep colored, warty specimens being considered the most poisonous. It is used by the natives of northern Asia and Kamschatka for the intoxication it produces, ending in unconsciousness.

Active principles.— Alkaloid muscaria.

Part used.— The fungus.

Form of preparation.—Tincture made by macerating two weeks, one part with two of alcohol, and filtering. Color of tincture, reddish yellow, nauseating odor, and acrid burning taste.

AGNUS CASTUS.

CHASTE TREE. VITEX AGNUS CASTUS.

A bush from three to five feet high, growing along the shores of the Mediterranean, and the coasts of Provence and Greece, and preferring a sandy or rocky soil. The flowers are numerous, and blue or purple in color ; the berries are small, blackish, and in shape and taste like those of Cayenne pepper.

Part used.—The ripe berries.

Form of preparation.— Tincture made by macerating one week, one part with two of dilute alcohol and filtering. Tincture dark brown, greenish color, spicy camphor-like taste.

AGAVE AMERICANA.

AMERICAN ALOE. MAGUEY. CENTURY PLANT.

This aloe is seen growing in Florida, Mexico and other portions of tropical America. It occurs in dry sandy soils where nothing but cacti will grow, often attaining a great height. When the root or leaves are wounded, a sweetish juice flows out. This when fermented constitutes an intoxicating liquor called *pulque*. A stout hemp is obtained from the leaves, and the white internal portion near the root is used for food by the natives. The whole plant resembles the aloe family. The blossoms are said to appear but once in a hundred years.

Active principle.— Volatile oil, gum-resin, salts, silica.

Part used.— The root and leaves.

Form of preparation.— Tincture made by macerating one week, one part with two of a very dilute alcohol; filter. Tincture pale stone color, and slightly spicy, bitterish taste.

AILANTHUS GLANDULOSA.

TREE OF HEAVEN.

A native of China and Japan, but extensively cultivated in this country as a shade tree, frequently reaching a height of sixty feet. The trunk is large and straight, and the boughs large and heavy. The leaves are from three to five feet long, with ten to twenty pairs of leaflets. The flowers are greenish, arranged in compact panicles, and exhale a most offensive odor.

Active principles.—Pectin, bitter principle, oleo-resin, volatile oil.

Part used.— The bark and young flowers.

Form of preparation.—Tincture made by macerating two weeks, one part with two of dilute alcohol, and filtering.

ALCOHOL.

SPIRIT OF WINE.

$C_4 H_6 O_2$ or $C_4 H_5 O+HO$.

Alcohol is a product of the vinous fermentation, being generated wherever saccharine vegetable juices are brought in contact with a ferment at a certain temperature. The different liquors containing it are named according to the substances producing it, as, wine when from grapes, cider from apples, arrack from rice, etc. Alcohol is obtained from the various fluids in which it is produced, by repeated distillation, by which it is separated from water, fusil oil or "amylic alcohol," and other foreign matters. This process is called *rectification*. Alcohol is a colorless, transparent, limpid liquid, having a penetrating odor, a burning taste, and a great attraction for water. It is very inflammable and a ready solvent for a great many vegetable and chemical substances.

ALCOHOL SULPHURIS.

LIQUOR LAMPADII. SULPHURETUM CARBONEI.

CS_2

Discovered by Lampadius in 1796. It is a thin, colorless, heavy fluid, of a penetrating offensive odor like that of sulphuretted hydrogen, of a sharp pungent taste, and of great refractive power, sp. gr. 1.272. It readily evaporates in an earthen vessel surrounded with ice.

It is insoluble in water, but dissolves readily in alcohol. As its preparation requires an iron retort and a blast furnace, directions are omitted.

ALETRIS FARINOSA.

STAR GRASS. COLIC ROOT.

As the popular names of this plant are also applied to the helonias dioica, there has been some confusion in regard to this plant. It is therefore recommended that the opinion of scientific botanists be obtained when this plant is used for medical purposes. It grows from one to two feet high, being most abundant in the southern states, where it is always found in dry, barren soil, and on sunny glades, never existing in rich limestone or alluvial soil. It also exists in the western states on hilly glades, or the open prairie. The leaves spring from the root in a circle, and six to twelve in number, and spread out on the ground in rays like a star. The root is small and black. The stem is upright with remote scales, sometimes changing into leaves.

The flowers are white, arranged upon a long, slender spike, and have a mealy or dusty appearance upon their external surface.

Active principles.— Bitter extractive.

Part used.— The root.

Form of preparation.— Tincture made by macerating two weeks one part with two of dilute alcohol, and filtering.

ALLIUM CEPA.

THE COMMON RED ONION.

This is the familiar garden esculent that has become diffused in nearly all countries. Cultivation has produced a number of varieties, but the red onion is the only one used in medicine. The bulb or root is oval, round or flattened, being made up of a number of concentric layers or tunics enveloped externally by a dry membranous covering. The leaves are hollow, cylindrical and pointed, with a scape or stalk rising from among them, bearing an embel of greenish flowers at its summit. All parts of the plant possess a peculiar pungent odor which is strongest in the bulb.

Active principles.— Volatile oil and sulphuret of allyl.

Part used.— The root or bulb.

Form of preparation.— Tincture made by macerating one week, one part with two of alcohol. Filter.

ALLIUM SATIVUM.

GARLIC.

A native of Sicily and the south of France, but cultivated in many other countries. The root is composed of a number of small bulbs arranged around the base of the stem. They are usually five or six in number, each enclosed in a separate, white, delicate membrane, and connected together. The leaves are long, flat, and cover the lower part of the stem. The stem rises about two feet high and bears a small white flower. The bulbs are oblong, white and fleshy internally, with a strong disagreeable odor.

Active principles.— Volatile oil, allyl and compounds, sulphur, allyllin, (obscure).

Part used.— The fresh bulb.

Form of preparation.— Tincture made by macerating one week, one part with two parts of alcohol. (Same as allium cepa.)

ALNUS RUBRA.

TAG ALDER.

An indigenous shrub found growing in clumps or thickets along the border of streams and swampy, marshy grounds. The stems are

numerous, and vary from ten to fifteen feet in height. During the winter the shrub is covered with small cones. The flowers appear quite large in the spring, and are of a reddish-green color. Alnin is the alkaloid of this plant.

Active principles.— Bitter extractive, tannic acid, alnin.

Part used.— The bark.

Form of preparation.— Tincture made by macerating two weeks, one part with two of dilute alcohol. Filter.

ALOES.

THE RESIN OF A TROPICAL TREE.

This is the product of a plant growing at the Cape of Good Hope, the East and West Indies, and the island of Socotra. It is procured by cutting off the leaves and allowing the juice that flows from them to collect in shallow vessels and evaporated to a solid mass. The concrete resin is exported in sheep or goat skins. The plant is usually found growing on parched and sandy soil, usually at a great elevation. There are several varieties from which the resin is obtained, each of which is native to the locality in which the production takes place. Thus we have the Socotrine, Barbadoes, Caballine, Cape and Hepatic aloes. The first named variety is by far the best, and is the one used in the Homœopathic Pharmacopœia. It is received from the island of Socotra, situated in the strait of Babelmandel, off the eastern coast of Africa. It has a yellowish, or reddish brown color, a smooth shining fracture, a slight odor, an exceedingly bitter taste, and when powdered, a golden color.

Active principles.—Aloetin, aloin, two bitter resinous extractives. Chrysatric acid, (aloetic acid).

Form of preparation.— Trituration. Tincture made by macerating for seven days, one troy ounce of resin in one and one-half pints of dilute alcohol, to which one half pint of distilled water is added. The tincture is of a dark reddish brown color, with the taste and smell of the aloes in a high degree.

ALSTONIA SCHOLARIS.

DITA SATIREEN.

This is a large tree growing in India, Malabar and the Phillipine islands. It affords the bark known in commerce by the same name. This is in pieces from three to six inches long, and more than a quarter of an inch thick. These are firm in texture, either flat or curved, brown in color, easily powdered, and quite bitter to the taste. The hardened juice of the tree has been considered as a possible substitute for gutta percha.

Active principle.—Ditaine.

Part used.— The bark.

Form of preparation.— Tincture made by macerating for two weeks, one part with five of dilute alcohol, and filtering.

ALUMEN.

ALUM.

$K, Al, 2SO_4, 12H_2O.$

This is the crystallized double sulphate of aluminium and potassium, known as *the potassa alum*. Another alum salt is formed by combining the sulphate of aluminium with sulphate of ammonium: this is called ammonia alum. The former is the one from which our provings are made. It occurs already formed in volcanic rocks near Naples, along the Rhine, in the island of New York and a number of other localities. It is artificially prepared by calcining a slaty clay, dissolving in sulphuric acid, adding sulphate of potassium, and crystallizing. Alum is a white, slightly efflorescent salt, having an acid, astringent taste.

Form of preparation.— Trituration of the crystals; tincture is a saturated solution in distilled water.

ALUMINA.

OXIDE OF ALUMINIUM.

Al_2O_3

A substance very largely distributed in nature, as clay, in combination with other earths and metallic oxides. The mineral corundum, and the ruby and sapphire are composed of pure alumina in combination with a little coloring matter. Clays and schists also contain it. It is artificially prepared by subjecting ammonia-alum to a strong calcining heat, or by precipitating-ammonia alum with an excess of ammonia; this is washed, dried, and heated to a white heat, the residue being alumina. It is a fine, soft, tasteless, white powder, insoluble in water or alcohol, but absorbing water eagerly.

Form of preparation.— Trituration. Fifth decimal in water.

AMBRA GRISEA.

AMBERGRIS.

This substance is found floating in masses upon southern seas, and also obtained from the intestines of the sperm whale. In the instances in which it has been discovered in whales, they were torpid, lean and sickly; the product being composed mainly of a fatty substance similar to cholesterin, and is therefore considered to be a morbid secretion from the liver. It usually occurs in small roundish balls, made up of concentric layers, having a grayish-brown, sometimes blackish color, traversed by whitish or yellowish-red streaks, and possesses an agreeable odor. It is of a waxy consistence, softens with the heat of the hand, and is quite inflammable.

Active principle.— Ambrein, a crystallizable fatty matter. Ambreic acid.

Form of preparation.— Trituration. Tincture, maceration of one

part in ten of alcohol, two weeks or longer, possibly some heat. Not reliable. Saturated solution in ether is better.

AMBROSIA ARTEMESIÆFOLIA.

RAGWEED, PIGWEED.

This unsightly weed is about two or three feet high, growing in gardens and fields, where it is very troublesome. The leaves are segmented acutely and parallel; the terminal flowers are small, green and barren, the axillary ones only being fertile.

Active principle.— Astringent principle not analyzed.

Part used.— The entire plant.

Form of preparation.— Tincture made by macerating one part with five of dilute alcohol, one week, if fresh. Filter.

AMMONIACUM.

AMMONIAC. DOREMA AMMONIACUM.

This resin, sometimes called gum ammoniac, is the product of a bush growing in Persia and upon the sides of the Hindoo coast mountains. When it is wounded, a milky juice flows out and hardens by exposure. It is reported that spontaneous exudation takes place which concretes upon the bark. The resin is exported in small, round, irregular pieces, and large masses. The former known as tears are yellowish, opaque, brittle and whitish internally; the large masses are darker in color, and in many instances contain impurities that were gathered at the time of collection, on which account we should use only the small, reddish-yellow or whitish granules, or tears. This gum has a bitter, acrid taste, gives off a garlic-like odor when burned.

Active principle.— Bassorin, volatile oil, peculiar resinous principle.

Form of preparation.—Trituration. Tincture by dissolving in dilute alcohol; weak; contains no bassorin.

AMMONIUM ACETICUM.

ACETATE OF AMMONIA.

(Spiritus Mendereri.)

$C_2 H_3 O_2, NH_4$

This is an aqueous solution made when carbonate of ammonia and dilute acetic acid are mixed together. It is a limpid, colorless, odorless liquid, having a saline taste and very apt to decompose with age. A solid form is obtained by the distillation of a mixture of acetate of lime and powdered sal-ammoniac.

Forms of preparation.— Saturated solution for dilutions. Trituration.

AMMONIUM BENZOICUM.

BENZOATE OF AMMONIA.

$C_7 H_5 O_2 (NH_4) O$.

This is made by dissolving benzoic acid in aqua ammonia and distilled water, evaporating to concentration and allowing crystallization to take place. This salt is in minute, white, thin, shining, four-sided crystals, having the characteristic odor of the acid and a bitter balsamic taste. It evaporates when heated, the acid alone remaining; the same thing takes place during prolonged boiling.

Form of preparation.—Solution in water or alcohol to the point of saturation.

AMMONIUM BROMIDUM.

BROMIDE OF AMMONIUM.

$NH_4 Br$.

Bromine when dissolved in aqua ammoniæ forms a yellow solution, becoming a granular or crystalline salt, according as it is evaporated to dryness, with constant stirring or simply concentrated to the point of crystallization. In either case the salt is white, changing in time by partial decomposition to a yellowish color, with liberation of hydrobromic acid. To the taste it is saline and pungent, soluble in water and alcohol, and sublimes when exposed to heat.

Form of preparation.—Trituration. Saturated solution, for dilutions.

AMMONIUM CARBONICUM.

(SESQUI) CARBONATE OF AMMONIA.

$2NH_4 O, 3CO_2$

This is a pungent, volatile salt, obtained by the sublimation of muriate or sulphate of ammonia with chalk. The muriatic or sulphuric acid unites with the chalk and forms chloride or sulphate of lime, while the carbonic acid, in combination with ammonia, is sublimed. Coal-gas liquor and bone spirit, each of which contains ammonia, also affords this salt. It is in white, hard masses, having a fibrous texture, a sharp taste and an irritating, ammoniacal smell.

Form of preparation.—Trituration. Saturated solution in alcohol or water for dilution. Alcoholic solution is somewhat stronger.

AMMONIUM CAUSTICUM.

LIQUOR AMMONIÆ FORTIOR.

NH_3

This liquor is obtained by the distillation of a mixture of chloride of ammonium and slaked lime. It is manufactured on a large scale from coal-gas liquor, which is distilled with milk of lime. In either

process the ammoniacal gas is made to enter into solution with distilled water, after having been conducted through a series of carboys arranged on the same plan as Woulff's bottles. This is done to purify the gas from all extraneous matters. Liquor ammonia is an alkaline, colorless, limpid liquid having a very acrid taste and an exceedingly pungent, irritating smell. It is very volatile, and loses ammonia whenever the bottle containing it is opened. On no account should a cork stopper be used, as the gas readily finds its way through the pores of the cork.

Form of preparation.—Attenuation with alcohol. They may be made with water.

AMMONIUM CITRICUM.

CITRATE OF AMMONIA.

$(NH_4)_3 C_6 H_5 O_7$

This preparation is obtained by neutralizing citric acid with a strong solution of ammonia.

Form of preparation.—Attenuation (1-9 or 1-99) in distilled water for the first dilution, in dilute alcohol for the second, and in alcohol for the third.

AMMONIUM IODIDUM.

IODIDE OF AMMONIUM.

$NH_4 I$

Iodide of ammonium is procured by dissolving iodide of potassium and sulphate of ammonium in boiling distilled water. On cooling a small quantity of alcohol is added. The whole is then evaporated to dryness, stirring constantly. It is a white, granular salt, when freshly prepared, but changes in a few weeks to a yellowish tint.

Form of preparation.—Attenuation in distilled water for the first dilution, in dilute alcohol for the second, and in alcohol for the third.

AMMONIUM MURIATICUM.

CHLORIDE OF AMMONIUM, SAL AMMONIAC.

$NH_4 Cl$.

Chloride of ammonium is obtained mostly from the liquor remaining in the condensers at the gas works. Bone spirit also affords it. The greater portion of this salt is imported from England, generally in a pure condition, although it sometimes contains traces of iron. It occurs in nature in volcanic districts, in plants, and in the water of mineral springs. The pure salt is white, translucent, tough, fibrous, and has a warm, saline taste, and is difficult to triturate in the usual way.

Form of preparation.—A boiling, saturated solution is made of the

salt, and constantly stirred while cooling. It will then be deposited as a fine granular powder, which is easy of trituration.

AMMONIUM NITRICUM.

NITRATE OF AMMONIUM.

$NH_4 NO_3$

This salt is produced by the addition of dilute nitric acid to carbonate of ammonia, until the reaction is neutral, when it is evaporated. According as the evaporation is hastened or retarded, it is fibrous and thread-like, or in the shape of prismatic crystals. When heated it easily decomposes.

Form of preparation.— Attenuation in distilled water for the first dilution, in dilute alcohol for the second dilution, and in alcohol for the third.

AMMONIUM PHOSPHORICUM.

PHOSPHATE OF AMMONIA.

$(NH_4)_2 H PO_4$

By neutralizing phosphoric acid in solution, with a strong solution of ammonia, concentrating by heat and crystallizing, this salt is obtained. It is in the form of transparent, colorless crystals, soluble in water, not at all in alcohol.

Form of preparation.— Attenuation in distilled water to the third dilution, dilute alcohol for the fourth, and in alcohol for the fifth.

AMPELOPSIS QUINQUEFOLIA.

WOODBINE. AMERICAN IVY. VIRGINIA CREEPER.

This is a woody vine having a climbing, rooting stem, with dark, glossy, green leaves that turn crimson in the autumn. It grows wild in woods and thickets, and in all parts of the United States, climbing often to a height of fifty or seventy-five feet, and supporting itself by numerous radiating tendrils. The foliage is very luxuriant, often covering the side of a building, old walls, etc. The leaves are large and digitate; the flowers are greenish or whitish, and occur in dividing clusters; the fruit is a dark blue berry, somewhat smaller than a pea, and of an acrid taste.

Part used.— The fresh bark and young twigs.

Form of preparation.— Tincture made by macerating for two weeks, one part with two parts of dilute alcohol, then filtering.

AMPHISBŒNA VERMICULARIS.

A VENEMOUS TROPICAL SNAKE.

This ophidian is of frequent occurrence in the Brazilian forests, and

has the peculiarity of being able to move either forward or backward as it may desire. It is about two feet in length, brownish in color on the back and sides, pinkish-white on the belly. The head is small, conical, and not to be distinguished from the neck; the eyes are small; the jaws not dilatable; the teeth are conical, curved, and separated from each other. There are no scales, but the skin is divided into quadrilateral portions arranged in rings around the body.

Part used.—The jaw containing the venom.

Form of preparation.—Trituration.

AMYGDALÆ AMARÆ AQUA.

BITTER ALMOND WATER.

This is an aqueous solution of the virtues contained in the kernel of the bitter almond. The tree from which the nut is obtained, grows chiefly in Morocco and northern Africa, and is about twelve or fifteen feet high. The flowers are of a white or pale red color. The fruit is similar to the peach, and contains a rough shell which encloses the kernel or almond. These latter are ovoid, covered with a brown skin and exceedingly bitter to the taste. They contain a peculiar principle termed amygdalin, which gives rise to hydrocyanic or prussic acid in the presence of water; also to oil of almonds, (hydride of benzoyl, laurel oil.)

Part used.—The ripe kernels.

Form of preparation.—An ounce of alcohol, six pounds of water and a pound of bitter almonds. Macerate one week and filter. This is attenuated with distilled water, dilute alcohol and alcohol.

AMYL NITRIS.

NITRITE OF AMYL.

$C_5 H_{11} NO_2$

An amber-colored, exceedingly volatile liquid, having a very penetrating, peculiar odor, compared to that of ripe pears. It is procured when a stream of nitrous acid gas is passed through amylic alcohol at a temperature of 27° F., or by the action of nitric acid upon amylic alcohol. In the former process it requires to be rectified and redistilled.

Form of administration.—Inhalation of the vapor, (a few drops on a handkerchief.)

AMYLAMINE CHLOROHYDRATE.

CHLORIDE OF AMYLAMINE.

$C_5 H_{13} NHCl$

This substance is prepared by the action of chloride of phosphorus upon amylic alcohol. It is exceedingly volatile, burns with a clear, white flame and mixes readily with alcohol or ether.

Form of administration.—Inhalation of the vapor.

ANACARDIUM ORIENTALE.

CASHEW NUTS. MALACCA BEAN. MARKING-NUT-TREE.

A large tree growing in Asia and the East Indies, bearing a resemblance to the walnut tree and containing an acrid milky juice. The leaves are large, oval, obtuse and alternate. The flowers are rose-colored, and exhale a very fragrant odor. The fruit is pear-shaped, acrid and astringent, and supports at its extremity, a grayish, kidney-shaped nut. The latter is furnished with two coats or envelopes, an outer and an inner. In the interval between these there is contained a quantity of black, oily, exceedingly acrid fluid, so caustic in its effects that it produces an excoriated or blistered surface. The kernel is almond-shaped, oily, white, and sweet to the taste. The juice of the nut and the milky fluid obtained from the tree by incision, are sometimes used for marking linen indelibly.

Active principles.— Anacardic acid, cardol oil.

Part used.— The juice contained between the shells of the nut.

Form of preparation.—Tincture made by macerating for two weeks, one part of drug in five of alcohol. It is inodorous with acrid, burning taste and deep brown color. Trituration; this however, does not keep well.

ANAGALLIS ARVENSIS.

SCARLET PIMPERNEL. POOR MAN'S WEATHER GLASS.

This is an annual trailing plant seen in fields, and growing along the roadsides in all parts of this country and Europe. The square, branching stem varies in length from six to twenty inches, with broad, ovate leaves placed upon pedicels longer than themselves. The flowers are arranged upon opposite sides of the stem, are small, scarlet in color and open at 8 A. M., closing at 2 P. M. In damp or rainy weather the petals do not open at all.

Active principles.— Peculiar volatile oil.

Part used — The whole plant.

Form of preparation.— Tincture made by expression to which is added an equal part of alcohol, or by macerating with two parts of dilute alcohol, two weeks if dry, and filtering.

ANATHERUM MURICATUM.

VETIVER OR VITI-VAYR.,

A grass-like plant growing in India, where it is quite common. The root is fibrous, spreading, and has a marked odor resembling myrrh, which is due to a resin contained in it. Fancy baskets, toilet articles, etc., are made from the root fibres, retaining their odor a long time. The plant varies from three to six feet in height.

Part used.—The entire plant.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks, and filtering.

ANGELICA ARCHANGELICA.

GARDEN ANGELICA.

A plant found in northern Europe, Asia, Switzerland, the Pyrenees, and especially in Lapland. It is also cultivated on both continents. The root is large, fleshy, spindle-shaped, hairy, gray or reddish in color, and contains an amber-colored juice, has an agreeable, aromatic odor, and a sweetish-bitter, musky taste. The stem is five feet or more in height, hollow, grooved, jointed, purplish in color and branches freely. The leaf stems are fistulous and the leaves arranged along the sides of a secondary leaf stem; are ovate-lanceolate, the terminal one being three lobed. The flowers are small, greenish-white or yellow, and disposed in large rayed umbels. The fruit, or so-called seeds ,are oval, rounded or notched, and ash-colored having a longitudinal furrow on one side.

Active principles.—Volatile oil, volatile acid (angelicic acid), three distinct resins, a bitter principle.

Part used.— The fresh root of the wild plant.

Form of preparation.— Tincture made by macerating for two weeks, one part in five of alcohol, and filtering. Spicy taste and odor, and pale yellow color.

ANGELICA ATROPURPUREA.

MASTERWORT.

This is a small, indigenous variety of the angelicas, and is quite common in the fields and marshy woods of our northern and western states. The stem is dark purple in color, four or five feet high, and about two in thickness. The leaves are similar to the A. archangelica. The flowers are greenish white, and form hemispherical, terminal clusters from six to eight inches in diameter. The root is purplish, and similar to the last named variety. The entire plant has the same aromatic odor as its European relative.

Active principles.—Angelicic acid (sambulolic), volatile oil, resins.

Part used.—The fresh root.

Form of preparation.—Tincture made by macerating one part in five of dilute alcohol. Also by expression, juice mixed with equal part of dilute alcohol. Filter.

ANILINUM.

ANILINE.

$C_6 H_5 NH_2$

An oily, colorless or reddish-brown organic alkaloid, obtained during the distillation of coal tar. When treated with other chemicals it may be made to assume the most brilliant reds, purples, greens, blues or yellows, each and all of which are extensively used in dyeing. It is also used as a substitute for flavoring extracts, for the detection of cotton in fabrics, and is applied to many other uses.

Form of preparation.— Attenuation with alcohol.

ANGUSTURA VERA.

TRUE ANGUSTURA.

A tree growing among the mountains of Carony, in Brazil, and along the Orinoco river, attaining a height of twelve or fifteen feet. The leaves are composed of three oblong leaflets, tapering at each extremity, and measuring from six to ten inches in length. The flowers are white, unpleasant to the smell, and arranged on both sides of a central stem, which is either terminal or axillary. The fruit is a capsule containing a round, black seed, about the size of a pea. The bark, when received in this country, is in slightly curved, white-dotted, yellowish-gray pieces, covered with a wrinkled epidermis, which is readily detached. It has a resinous fracture, a peculiar, unpleasant odor, and a pungent, bitter taste. The powdered bark is of a fawn color. A spurious bark has been introduced into the market, which is now known as "false angustura" bark, and it comes from the *strychnos nux vomica*. It can be distinguished by a botanical study of the two plants.

Active principles.— Resins, volatile oil, gums, angusturin (cusparin).

Part used.—The bark.

Form of preparation.—Trituration. Tincture made by macerating one part in five of dilute alcohol, two weeks. Filter.

ANTHEMIS NOBILIS.

ROMAN CHAMOMILE.

This plant grows wild in various parts of Europe, but is also cultivated in the southern part of the continent.. The stems are from six inches to a foot long, slender, trailing, covered with a soft down, and becoming erect at their termination. The leaves are arranged on both sides of the stalk, the leaflets being small, and divided into segments. The flowers are composed of white radiating petals, and a yellow, convex center, from the circumference of which the former spring. The entire plant is fragrant.

Active principles.—Volatile oil, bitter principle, resin, volatile acid.

Part used.—The whole plant, when beginning to flower.

Form of preparation.—Tincture, made by macerating one part in five of dilute alcohol, one week, and filtering.

ANTHOXANTHUM ODORATUM.

SWEET VERNAL GRASS.

This is a fragrant grass growing in nearly all parts of this country, flowering early, and rising from ten to eighteen inches high. The stem is erect and slender, with lanceolate leaves about three inches long. The flowers are yellow, and disposed on a spike two or three inches long, at the summit of the stem. The seed-grains are oblong, shining, blackish, and when placed on the moistened hand, exhibit an insect-like motion, due to the incoiling of the spirally twisted awn. The perfume depends on the presence of coumarin, and is rendered more apparent by bruising the leaves. The aftermath, or fall growth, is said to be richer in nourishing qualities than that grown in the spring.

Active principles.— Coumarin, (same as in tonka bean, crystallizable, volatile), vegetable acid.

Parts used.—The whole plant, when flowering.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks, and then filtering.

ANTHRAKOKALI.

PIT-COAL AND POTASH.

This substance is formed by the action of caustic potash upon a species of pit coal, mined at Funfkirchen, Hungary. To prepare it, seven parts of caustic potassa are fused with five parts of the powdered Funfkirchen pit coal, and the mixture well stirred. Then, removing it from the fire, the stirring is recommenced, and continued until the entire mass is converted into a homogeneous black powder.

It should be preserved in amber colored bottles, rendered impervious to the air by dropping melted wax around the stopper.

Form of preparation.—Trituration.

ANTIMONIUM ARSENIATUM.

ARSENIATE OF ANTIMONY.

$Sb_2 O_3$, AsO_5.

A heavy, snow-white powder, containing oxide of antimony and arsenic acid, obtained by saturating a strong solution of arsenic acid with carbonate of antimony, and setting it aside to crystallize by its own evaporation.

Form of preparation.—Trituration.

ANTIMONIUM CHLORIDUM.

CHLORIDE OF ANTIMONY. BUTTER OF ANTIMONY.

$SbCl_3$.

The solution obtained by heating sulphide of antimony with hydrochloric acid, (after the fumes of hydrogen sulphide have ceased), is distilled until each drop of the distillate produces a white precipitate in the receiver. Receivers are then changed, and this distillate cools to a white, highly crystalline mass of chloride of antimony. "Butter" of antimony refers to its condition when partly deliquesced. It is not the "Powder of Algaroth;" that salt is the *oxy*chloride of antimony. While the hydrogen sulphide is given off, test for arsenic.

Form of preparation.—Trituration. Aqueous tincture is more reliable, on account of deliquescence. (See page 23, "*Mother Tincture.*")

ANTIMONIUM CRUDUM.

TERSULPHURET OF ANTIMONY.

SbS_3.

Crude antimony is the name given to the native tersulphuret of antimony, and is not the pure metal as its name would imply. It is of frequent occurrence in France, Germany, and on this continent in the province of New Brunswick. It was known as long ago as the fifteenth century, when Basil Valentine, observing its fattening effect upon hogs, experimented with it upon his monks, with fatal results; hence the name antimony, from the words *anti*, against, and *monachus*, a monk. In chemistry it is known as "stibium." It is in irregular, compact, brittle masses, of a dark bluish or leaden-gray appearance, composed of thickly set, radiating, crystalline needles, having a metallic lustre, but less brilliant than the pure metal. It should be tested for arsenic, which may be removed by thorough sublimation of the adulterant. The blue signal, and bengal light, contains this salt.

Form of preparation.—Trituration.

ANTIMONIUM OXIDUM.

TEROXIDE OF ANTIMONY.

Sb_2O_3.

An adimorphous salt, occurring native as valentenite and senarmontite. It is prepared artificially in several ways, such as burning the metal in a red hot crucible; immersing a solution of chloride of antimony in water, and treating the precipitate thus formed with a solution of carbonate of soda; or by roasting the tersulphuret of the metal, and raising the heat near the close of the process. It is a heavy, grayish-white, or pale buff-colored powder, insoluble in water.

Form of preparation.—Triturations.

ANTIMONIUM ET POTASSIUM TARTARICUM.

TARTAR EMETIC.

SbO_3, KO, C_8 H_4 O_{10} + H_2 O.

The tartrate of antimony and potassa is a double salt, formed by the union of tartrate of potassa (or cream of tartar), with tartrate of the teroxide of antimony; these are boiled together until the solution is saturated, and on cooling it deposits tartar emetic in colorless, transparent, octohedral crystals, easily reduced to a white powder. These have a metallic taste, crepitate and blacken upon the application of heat. The yellowish powdered crystals contain iron. Water dissolves this salt, alcohol less so.

Form of preparation.—Trituration. Solution for dilutions.

ANTIMONIUM SULPHURIS AURATUM.

GOLDEN SULPHURET OF ANTIMONY.

Sb_2 S_5

The following method furnishes this salt: Sulphide of antimony, carbonate of soda, slaked lime, flowers of sulphur are boiled together in water for some hours, and the solution evaporated to form crystals of the double sulphate of sodium and antimony. These are dissolved in dilute sulphuric acid, sulphate of soda remaining in solution while the pentasulphide of antimony is deposited as a golden-yellow precipitate.

Form of preparation.— Trituration.

APHIS CHENOPODII GLAUCI.

PLANT LICE.

These lice are found in great abundance upon the oak-leaved goosefoot (chenopodium glaucum), from which they are gathered. The head is small and furnished with a long tubular beak, which is situated perpendicularly between the fore legs. The body is soft, oval, and provided at the posterior extremity with two slightly raised eminences each of which is pierced by a tube or pore. From time to time there exudes through these orifices, minute drops of a thick, sweetish fluid called honey dew. These insects feed upon the sap contained in the leaves, sucking up the circulating fluids with the greatest avidity, and when gorged with sap, the liquor passes out through the posterior pores as above described. (Compare with chenopodium.)

Form of preparation.—Trituration of the living insects. Tincture made by macerating one part with five of alcohol and filtering.

APIS MELLIFICA.

APIUM VIRUS. POISON OF THE HONEY BEE.

The honey bee is common to all parts of the known world, and is

common both in the wild and domesticated state. It produces several valuable secretions, as honey, wax, and a virulent poison. They live in colonies composed of the female or queen bee, of which there is but one for each swarm, the males or drones existing only for the purpose of impregnating the queens, after which they are killed by the third class, the neuter or working bees. These latter comprise the greater majority of each colony, and it is from them that the virus is obtained. The abdominal cavity is enclosed by six rings that are contracted at will, shortening or lengthening the body as desired. Within the abdomen is a system of cells, whose office it is to secrete a peculiar fatty substance, used to construct the comb. The posterior extremity is furnished with a sheath enclosing a barbed sting, and communicating with a sac in which there is contained an exceedingly poisonous fluid.

Form of preparation.— Tincture, made by pouring five times their weight of alcohol over irritated working bees, allowing them to macerate for eight days; then decant and filter them. This method gives whatever pollen the bees may have about them. A better way is to take each bee in a pair of forceps, and when he thrusts out his sting, immerse it in alcohol, using bees enough to saturate the alcohol.

APIUM GRAVEOLENS.

CELERY.

Originally an indigenous plant growing wild in various parts of Europe, this vegetable has been transferred to this country, where it receives the most careful cultivation. In its wild state it differs very much from the crisp, juicy specimens we are accustomed to see, being rank, coarse and possessing poisonous qualities. The principle seems to be developed by the wet marshy localities in which it is at home, losing it almost altogether by its transference to cultivated, well-drained soil. The stems are from eight to twelve inches high, are marked for the greater part of their length, are concavo-convex, and taper gradually toward the summit, which is slightly branching. The leaf is small and delicate, with a bitterish taste; the flowers are white, terminal, and arranged in a spreading umbel; the seeds are black.

Part used.— The seeds of the wild plant.

Form of preparation.— Tincture, made by macerating one part with two of dilute alcohol.

APOCYNUM ANDROSEMIFOLIUM.

SPREADING DOGBANE. CATCHFLY.

A perennial, indigenous plant, ranging from three to six feet in height, and growing along fences, borders of woods and in moist soil, from the northern boundary of this country, southward to the Caro-

linas. The stem springing from a large milky root, is smooth, branched above, and covered with a tough fibrous bark, usually red upon the side next the sun. The leaves are two or three inches long, opposite, and smooth edged. The bell-shaped flowers are white, tinged with red, have a horny-like odor, and grow in full, nodding, terminal cymes, or in the axils of the leaves. The fruit is in follicles, containing a number of seeds overlapping one another, each being furnished with a seed down. If wounded in any part, the plant pours out a milky juice which is extremely bitter. The poisonous effects of the European genus gives one of its common names.

Active principles.— Volatile oil. Bitter extractive, gums.

Form of preparation.— Tincture made by macerating one part of the fresh root in five of dilute alcohol, two weeks, and filtering.

APOCYNUM CANNABINUM.

AMERICAN INDIAN HEMP.

This is also indigenous, and closely resembles the A. androsemifolium, but is somewhat smaller, and is found in the same situations as the former. The stems are two or three feet high, and brownish, having leaves from one and a half to two and a half inches long, tapering at both ends and downy beneath; the flowers are small, white externally, pinkish or purple internally. The bark is fibrous, and when macerated in water, affords a substitute for hemp; the root is horizontal, five or six feet long, divided into branches near its termination, and is yellowish-brown when recent, but turns dark brown with age. It contains a milky juice when freshly obtained, flowing at every laceration, and when hardened, has the appearance of caoutchouc. The fruit or pod is from three to five inches long, containing numerous seeds.

Active principles.—Apocynin. Bitter extractive, resins, wax, gums.

Form of preparation.— Tincture made by macerating one part of the fresh root, with two of dilute alcohol, two weeks, and filtering.

APOMORPHINUM CHLORIDUM.

A SUBSTANCE OBTAINED FROM MORPHIA.

$C_{17}, H_{17}, NO_2, HCl.$

This substance differs from morphine in having one equivalent less of water. It is obtained from the chloride of morphia, by treating it with an excess of hydrochloric acid, and exposing it to a heat of 265° F., for two or three hours. It is then dissolved in distilled water, and precipitated from its solution by bi-carbonate of soda, and redissolved in ether or chloroform. It is then crystallized by adding a minute quantity of hydrochloric acid.

Form of preparation.— Trituration.

AQUA MARINA.

SEA WATER.

The waters of the ocean contain a vast number of substances in solution, among which are the chlorides of sodium, potassium, lithium and magnesium; the carbonates of lime, magnesia, iron, and manganese; the sulphates of the foregoing bases; the ammonio-magnesian phosphate; silicea, iodine, bromine, organic matter, carbonic acid, silver, lead, iron, and copper.

Form of preparation.— Dilution.

AQUILEGIA VULGARIS.

COLUMBINE.

A plant indigenous in Europe, but introduced and cultivated in this country as an ornament. It is about two feet high, leafy, with many flowers; the leaves are smooth and lobed; the flowers are large and purple, with spurred petals resembling the talons of a bird of prey, hence the name, from *aquilla* the eagle. Under cultivation the flowers become double and vary in color from purple to white. The whole plant has a disagreeable odor; the seeds are black and shining, small in size, and have a sweetish, with an acrid after taste.

Form of preparation.— Tincture made by macerating one part of the plant with two of dilute alcohol, two weeks; filter. Tincture of a dark, brownish-green color, and bitter or acrid taste.

ARANEA DIADEMA.

PAPAL-CROSS SPIDER.

This spider is found both in Europe and this country. The body is about the size of a hazel nut, having a line running antero-posteriorly upon the dorsum, which is composed of white and yellow points. This is crossed transversely by three similar lines, the entire arrangement being the distinguishing mark of this insect.

Form of preparation.— Tincture of the entire insect killed in the vehicle, or the same as directed for apis mel.

ARANEA SCINENCIA.

A gray spider found in Kentucky, inhabiting old walls. It does not spin a web.

Form of preparation.— Tincture same as with A. diadema.

ARALIA RACEMOSA.

AMERICAN SPIKENARD.

The spikenard is an indigenous plant, growing mainly in rocky woods from the Canadas to the Southern States. It is from three to four feet high, having a dark green or reddish, widely branching stem;

the leaf stalks divide into threes, each having from three to five oval, pointed, slightly downy leaflets; the flowers are greenish-white, and spring in clusters from the axils of the leaves and branches; the fruit is a berry, containing a stone-like seed; the root is large, is very long, and has a spicy, aromatic odor and taste.

Forms of preparation.—Tincture made by macerating one part of the root with two of dilute alcohol two weeks, and filtering. Trituration of the dried root.

ARGENTUM.

SILVER.

Ag.

Metallic silver may be prepared by triturating thin silver foil with sugar of milk, or by precipitation. The readiest method of precipitation is to place silver chloride in a glass tumbler or jar and cover with water to four or five times its depth. Acidify the water with a few drops of sulphuric acid, and place in it a piece or strip of clean, bright zinc. The silver chloride will soon be changed into metallic silver, gray and spongy. Wash with weak solution of muriatic acid. Metallic silver is also precipitated from solution by gallic acid.

Form of preparation.—Trituration with sugar of milk, which frequently decomposes, generally through the medium of the sugar water of crystallization, which is liberated by trituration. The result may be oxide of silver, or even a saccharate of silver, which is soluble.

ARGENTUM AMMONIUM CHLORIDUM.

AMMONIO-CHLORIDE OF SILVER.

This salt, crystallizing in cubes, is made by saturating a solution of ammonia with chloride of silver, aiding the process with heat. It is then enclosed in a stoppered bottle and allowed to cool, when crystallization takes place. It should be dried and protected from the light in amber-colored or blackened bottles.

Form of preparation.—Solution, in distilled water, 3d with dilute alcohol, then alcohol.

ARGENTUM CYANIDUM.

CYANIDE OF SILVER.

AgCy.

A salt formed by the distillation of ferrocyanide of potassium, previously mixed with sulphuric acid and water. As the distillation progresses, the hydrocyanic acid passes into a receiver containing a solution of nitrate of silver, and combining with the metal is thrown down in the form of a precipitate, which is washed and dried. Another

method is its precipitation from a solution of nitrate of silver by cyanide of potassium, and then treated as other precipitates. It should be guarded from exposure to the light. It is a heavy, white, insoluble powder, having neither smell nor taste.

Form of preparation.-- Trituration.

ARGENTUM IODIDUM.

IODIDE OF SILVER.

AsI.

This substance is formed when iodide of potassium, dissolved in water, is added to a solution of nitrate of silver. A double decomposition takes place, by which iodide of silver is precipitated, the nitrate of potassium being held in solution. The silver salt is then washed, carefully dried and afterward enclosed in amber-colored bottles. It is a bright yellow powder, possessing the remarkable property of expanding with cold and contracting with heat.

Form of preparation.— Trituration. Transfer to water at fifth dec.

ARGENTUM MURIATICUM.

CHLORIDE OF SILVER.

AgCl.

To prepare the chloride of silver, a solution of common salt or dilute muriatic acid is added in successive portions to a solution of nitrate of silver. The resulting precipitate is the salt under consideration which should be preserved in the same way as the other silver salts.

Form of preparation.—Trituration. As one-millionth of a grain will produce cloudiness, do not transfer to water before the sixth decimal.

ARGENTUM NITRICUM.

NITRATE OF SILVER. LUNAR CAUSTIC, (IMPURE).

$AgONO_5$

Metallic silver is dissolved in dilute nitric acid by aid of heat, the heat continued until red fumes of nitrous acid are no longer given off. It is then evaporated to dryness, melted, re-dissolved, decanted, and concentrated to crystallization. Another formula omits melting the salt prior to its last solution. Either of these processes form colorless, transparent, rhomboid crystals, possessing a strong metallic taste, and imparting a black or brownish stain to organic substances. In solution, nitrate of silver forms the well known "indelible ink," used for marking clothing. For local application it is dissolved in distilled water in the proportion of two to ten grains to the ounce.

Form of preparation.— Solution in distilled water.

ARGENTUM PHOSPHORICUM.

PHOSPHATE OF SILVER.

$Ag_3 PO_4$

Phosphate of silver is formed by the mixture of the solutions of rhombic phosphate of soda and nitrate of silver. The salt is deposited as a precipitate, nitrate of soda remaining in solution. The same rules as to its final disposition and exclusion from light are to be observed, as in the case of its relatives. It is a yellow powder.

Form of preparation.— Trituration.

ARISTOLOCHIA CLEMATITIS.

BIRTHWORT. SNAKE ROOT.

This European plant, to which the name of snake root is loosely applied, is of common occurrence in France and Germany, and occurs as far east as Tartary. It has a long, thin, irregularly jointed, yellowish-brown root, and a furrowed, pithy, angular stem; the leaves are heart-shaped and obtuse, blue-green above and green beneath. The flowers grow in the axils of the leaves and are of a dirty yellow color. The entire plant has a strong, unpleasant odor, and a bitter balsam-like taste.

Active Principles.—Aristolochin, (Elliott). Resin, volatile oil.

Part used.— Root dug in April or September.

Form of preparation.— Tincture, made by macerating one part of the whole plant in two parts of dilute alcohol, two weeks. Filter.

ARISTOLOCHIA MILHOMENS.

BRAZILIAN SNAKE ROOT.

This is a climbing plant, a native of Brazil, having a smooth stem, and bearing alternate, heart, or kidney-shaped leaves, supported on long, sinuous leaf stalks, the flowers, standing upon long channeled stalks, are large, yellowish-brown, and divide into two portions, one of these ending in a sharp spur, the other in a broad disk.

Form of preparation.— Tincture made by macerating one part of the dried root and flowers in five of dilute alcohol, two weeks, and filtering.

ARNICA MONTANA.

LEOPARD'S BANE. MOUNTAIN ARNICA.

This perennial plant grows in Alpine and other mountainous districts of Europe and Siberia. In this country it is found in the northern portion as far west as the Mississippi river. It is about a foot high, with a striated hairy stem, terminating in two or three peduncles, each of which bears a large orange-colored flower; the radical leaves are ovate and obtuse, those of the stem lance-shaped;

the root is about two or three inches long, horizontal, woody, giving off a great number of fibres or radicles. All parts of the plant have a strong aromatic odor, and peppery, bitterish taste. The fruit is a hairy pappus. Gruner cautions against a peculiar parasite *musca arnicæ*, on which account the calices may be rejected.

Active principles.— Resin, bitter principles (cystisin [?]), volatile oil, arnacina.

Part used.— The entire plant, or flowers alone.

Form of preparation.— Tincture made by macerating one part of the fresh root with five of dilute alcohol. Tincture made by macerating one part of the fresh plant with two of dilute alcohol. Tincture made with one part of the flowers to six of dilute alcohol. Filtering.

ARSENICUM.

METALLIC ARSENIC.

As.

Metallic arsenic is rarely found as such in nature, but may be obtained by subjecting the metallic oxide to the heat of incandescent charcoal, the oxygen being dissipated the pure metal remains. Pure arsenic is a brittle crystalline metal of a steel-gray color, bright when broken or freshly obtained, becoming tarnished by exposure. When heated to a temperature of 356° F., white fumes are given off, having the garlicky smell peculiar to this metal. It is widely distributed in nature, existing in various ores, minerals, soils and springs, (arsenical springs), and used for many purposes in the arts.

Form of preparation.— Trituration. Dilution from the fifth decimal trituration.

ARSENICUM ALBUM.

ARSENIOUS ACID. WHITE ARSENIC.

$As_2 O_3$

This form of arsenic is chiefly obtained from Bohemia and Saxony where it is deposited as a secondary product in the flues of furnaces in which cobalt ores are smelted. It is collected and purified by re-sublimation in close iron vessels. When freshly prepared, it is clear and glass-like in appearance, but soon becomes opaque by exposure to the atmosphere. It has a faint, sweetish taste and when thrown upon lighted coals, gives off the characteristic garlic odor. In masses of considerable size, the outer portion for a variable thickness is of a milky-white color, while the internal portion has the transparent, glassy appearance of the recent article. When in powder it is very apt to be adulterated with lime, chalk, and other factitious substances ; these may be detected by sublimation, the impurities will not sublime. It is readily pulverizable. Arsenic is a violent poison,

often fatal in minute doses, and produces cachexia from long continued use. Serious poisoning sometimes takes place when it is inhaled in the form of dust from green wall paper, (arsenite of copper).

Form of preparation.—Trituration. (Solubility in water differs with different specimens and different authorities, from 1-4 to 1-1000 parts.) Hence, do not transfer trituration to water before the fifth decimal.

ARSENICUM HYDROGENISATUM.

ARSENETTED HYDROGEN. ARSENE.

AsH_3

This is a colorless gas in the product of Marsh's Test for arsenic, and is also prepared by the action of nitric or hydrochloric acid upon an alloy composed of arsenic and zinc. It burns with a blue flame, having the odor of garlic, and is slightly soluble in water. It is very poisonous even in small quantities.

Form of preparation.—The freshly prepared gas dissolved in cold water for inhalation. (Unsafe in any amount).

ARSENICUM IODIDUM.

IODIDE OF ARSENIC.

AsI_3

This is procured by rubbing iodine and arsenious acid together in a mortar until a fine powder is obtained. This is placed in a flask and heated to a molten mass, after which it is poured out upon a stone or porcelain slab. In a short time it hardens into a mass, which is broken up and enclosed in a well stoppered bottle. It is an orange-red, crystalline solid, freely soluble in water and entirely volatilized by heat.

Form of preparation.—Trituration.

ARSENICUM CITRINUM.

LEMON-COLORED ARSENIC. TRISULPHIDE OF ARSENIC. ORPIMENT. KING'S YELLOW.

$As_2 S_3$

This is found in masses made up of flexible plates having a bright lemon-yellow color, and is of most frequent occurrence in Persia and China. It is prepared artificially by passing sulphuretted hydrogen through muriatic acid, in which arsenious acid has been previously dissolved; the precipitate thrown down is then collected, washed and

dried. It may also be procured by fusing arsenic with the requisite amount of sulphur. Prepared in this way it is a golden-yellow crystalline salt, used as a pigment, and employed in the manufacture of fireworks. Insoluble.

Form of preparation.—Trituration.

ARSENICUM SULPHURATUM RUBRUM.

DISULPHIDE OF ARSENIC. REALGAR.

$As_2 S_2$

Saxony, Bohemia, and Transylvania, and some volcanic regions furnish this substance. It is also prepared by fusing arsenious acid with half its weight of sulphur. It has a ruby-red color, is fusible, volatile, used for painting, and one of the ingredients of *white fire*. Insoluble.

Forms of preparation.—Triturations. Dilutions from the fifth dec.

ARTEMISIA ABROTANUM.

SOUTHERNWOOD. OLD MAN.

A native of Asia and Europe, where it is quite common in hedges, waste places, etc., but quite familiar in this country, and often cultivated in gardens. It is about three feet high, shrubby, with alternate and lobed leaves, white and downy beneath, having a fragrant odor and a bitter, nauseous, somewhat pungent taste. The flowers are many, nodding, brownish-yellow and disposed on long spikes; they have an aromatic and pleasant odor, although bees do not like it and even avoid it.

Part used.—The stems and leaves.

Form of preparation.—Tincture, made by macerating one part of the stems and leaves in two parts of dilute alcohol, two weeks. Filter.

ARTEMISIA VULGARIS.

MUGWORT. COMMON ARTEMISIA.

This is also a naturalized plant, growing in fields, by the roadsides, banks of streams, etc. It is from two to three feet high, emits an agreeable odor when rubbed, and is very bitter to the taste. The leaves are white and cottony on the under surface, very variable in size, and cleft in segments. The flowers are few, purplish and hairy. The root is round, crooked, and said to contain its greatest virtues in November. It is most common in Vermont and New Hampshire.

Form of preparation.—Tincture made by macerating one part of the side roots in two of very dilute alcohol, and filtering. Yellowish brown color, little taste.

ARUM DRACUNCULUS.

DRAGON PLANT.

This member of the arum family is met with in the south of Europe. The stalks are about three feet high and spotted like a snake. It has a strong, carrion-like odor, producing headache and other disagreeable effects when inhaled. In other respects it resembles the A. maculatum.

Part used.— The root.

Form of preparation.— Tincture, made by expressing the juice from the root, then adding an equal part of alcohol. Also by macerating root in three parts dilute alcohol, two weeks; then filter. Ethereal tincture alone contains the full virtues of the *arums*.

ARUM ITALICUM.

ITALIAN ARUM.

This member of the arum family is met with in the south of Europe, from Holland southward. It also grows in northern Africa. The plant is large and stout, with long triangular leaves. The spathe or elongated flower-leaf is yellow, and falls over at the top as soon as it expands; the berries and seeds are larger than those of its relatives.

Part used.— The root.

Form of preparation.— Tincture made by expressing the juice from the root, then adding an equal part of alcohol. Also by macerating root in three parts dilute alcohol, two weeks; then filter.

ARUM MACULATUM.

CUCKOO-PINT. LORDS AND LADIES.

This plant is indigenous to England, Ireland, and to central Europe. preferring thick, shady woods or thickets and hedges, and containing a milky, very acrid juice. The leaves all spring from the root, are large, handsome, shining, sometimes spotted with black, and strongly arrow-shaped; the flower stalk is smooth, round, rising to a foot or more in height, and bearing a single flower at the summit; the flower, convolute at the base, is prolonged upward into a tongue-like process of greenish-yellow color, and known as the spathe; the spadis is a clut-shaped process rising in the centre of the flower, violet, or brownish-red in color, and sometimes shaded by the bent spathe. The berries are scarlet, many seeded, and when the spathe withers, are seen lasting sometimes all winter. The root is tuberous, fleshy, brownish yellow, and has a burning acrid taste. It abounds in starch of which "Portland sago" is made.

Part used.— The root.

Active principles.—Acrid, volatile principles, gums, fixed oil, resin, calcium phos.

Form of preparation.— (1.) Tincture made by expressing the juice

from the root, then adding an equal part of alcohol. (2.) Macerating in two parts of dilute alcohol two weeks. (3.) Ethereal extract only, contains all the virtues of the plant. Filter.

ARUM TRIPHYLLUM.

INDIAN TURNIP.

Native in all parts of this continent, this plant grows in wet woodlands, marshes, ditches, and moist, shady places. In general appearance it resembles the A. maculatum, and has received the fanciful name of Jack-in-the-pulpit, from the club-shaped spadis standing in the goblet-shaped spathe, by which it is canopied. The recent plant has a strong odor, and pungent, acrid taste. The root or cormus varies from one to two inches in diameter, is brown and wrinkled externally, and contains a volatile principle, producing a long-lasting, burning sensation, with soreness of the mouth and throat when chewed. When roasted the root becomes inert, and is then eatable. Aroine is the active principle which by distillation becomes an inflammable gas.

Active principles.—Very volatile, acrid principles; aroine, extractive, gums, potash and lime salts.

Part used.—The root, fresh, if possible.

Form of preparation.—Tincture made by expressing the juice from the root, then adding an equal part of dilute alcohol; if root is dry, by maceration, with dilute alcohol two parts, two weeks, then filter; also an ethereal extraction. Trituration.

ASAFŒTIDA.

ASAFŒTIDA.

Asafœtida is a gum resin from the ferula or narthex asafœtida, a native of oriental countries, growing in Persia, Bokhara, Afghanistan, Medea, Chorassan and the Punjaub. The leaves are radical, numerous, spreading, tough, leathery, and about two feet long. From the midst of these a smooth stem rises, attaining a height of six or eight feet, crowned at the summit with a cluster of pale yellow flowers. The fruit is oval, flat and reddish brown. The root is about three inches in diameter at the surface of the ground, nearly a foot in length and containing a large amount of milky, fetid juice. This is obtained by cutting the root transversely, while yet in the ground, and carefully removing the exuding juice and drying it in the sun. A good specimen of asafœtida, consists of a coagulation of granules of the size of a pea or hazel-nut, or larger, light yellow, having a somewhat waxy lustre, readily becoming sticky, viscous, and soft under the hand; some of these granules are adherent with each other, while others gather into a brownish, soft formless mass of a fatty lustre and a most penetrating odor. It presents two forms, that of tears and

masses, according as it has hardened in drops or quantities. Asafœtida is brittle, yellowish, or reddish-brown, extremely fetid, difficult to pulverize and milky in the presence of water.

Active principles.— Volatile oil, similar to one in oil of mustard. Malates. Bassorin and other extractives.

Form of preparation.—Tincture made by dissolving one part of selected tears in five of alcohol two weeks, then filter; color, a deep, brownish-red.

ASARUM CANADENSE.

INDIAN GINGER. WILD GINGER. COLT'S FOOT. CANADA SNAKE-ROOT.

This indigenous plant is found from the Canadas to the Carolinas. The root stalk is long, creeping, fleshy, yellowish, knotted and contorted; the stem divides before reaching the surface, and rises in two long, hairy leaf stalks, each bearing a half formed leaf. The flower is solitary, and situated at the base of the plant, where it is easily overlooked among the leaves, rubbish, etc., which often nearly cover it. It has a woolly appearance, and a dull purple color. The plant usually grows in wooded or shaded places, possesses an aromatic bitter taste, and yields, on distillation, a pungent, fragrant oil.

Active principles.— An acrid, bitter resin; odorous, volatile oil; extractive salts.

Part used.—The root.

Form of preparation.— Tincture made by macerating one part of the fresh root in two of alcohol, two weeks, then filter.

ASARUM EUROPÆUM.

ASARABACCA. FOAL'S FOOT. HAZELWORT. WILD NARD.

Flourishes in mountainous woods in many parts of Europe. The stem is short, supporting two dark green, kidney-shaped leaves, and having a single drooping, bell-like and greenish-brown flower in the axil of the leaves. The root is about the thickness of a goose-quill, quadrangular, knotty, having the smell of pepper, and an acrid taste, and yielding a grayish powder when triturated. This latter becomes inert with age.

Active principles.—Asarin, volatile oil, large number of extractives, citric acid, cytisin. Asarum camphor.

Part used.— The root and whole plant,

Form of preparation.— Tincture made by macerating one part of the root in five of alcohol, then filter; dark brown color, strong smell, acrid taste.

ASCLEPIAS INCARNATA.

WHITE INDIAN HEMP. FLESH-COLORED ASCLEPIAS. ROSE-COLORED SILKWEED. SWAMP MILKWEED.

This species grows in low, wet localities in all parts of the United States. It rises about two or three feet high, branching above, and pours out a milky juice if wounded. The leaves are oblong, lance-like, about five inches long, and covered with a fine down. The flowers are red or reddish purple, very fragrant, and arranged in numerous umbels, frequently in opposite pairs. The root is light yellow or brownish.

Part used.—The root.

Form of preparation.— Tincture made by macerating one part of the root in five of alcohol two weeks, then filter. Trituration.

ASCLEPIAS SYRIACA.

SILKWEED. MILKWEED.

This herbaceous plant is one of common growth in nearly all parts of the country, inhabiting sandy soils, uncultivated land, and the banks of water courses. It is about three or four feet in height, has a large, strong, branching stem, with oval, spreading leaves, downy on the under surface. The flowers are fragrant, axillary, purplish, and disposed in dense clusters. The fruit is a pod, covered externally with sharp spines enclosing a number of seeds, to which fine silk fibres are attached, collectively making a mass of fine hairs. These have been used in the manufacture of hats, and for a number of other purposes. A milky fluid exudes wherever any part of the plant is cut or broken.

Active principles.— Resinoid. Asclepiadin.

Part used.— The root.

Form of preparation.— Tincture, made by macerating one part of the root in five of dilute alcohol, two weeks, then filter. Trituration.

ASCLEPIAS TUBEROSA.

PLEURISY ROOT. BUTTERFLY WEED. TUBER ROOT. WHITE ROOT. WINE ROOT. FLUX ROOT.

This is an indigenous shrub about eighteen inches high, of more frequent occurrence in the southern states, although it is seen as far north as Massachusetts. The stems are numerous, some erect, some ascending, others drooping, clothed with scattered lance-like leaves that are very hairy and deep green. The flowers are a reddish-orange color, and disposed both in terminal and lateral umbels. The fruit is an oblong follicle, containing a number of flat, oval seeds which are attached to the pod by long silky hairs. The root is furnished with tubers from which the name of the plant is derived ; is large, branch-

ing, sometimes fusiform, and when recent, has a nauseous, acrid taste. This species does not contain the milky juice possessed by the other species.

Part used.— The root.

Form of preparation.—Tincture made by macerating one part of the root in two of dilute alcohol two weeks, then filter. Trituration.

ASPARAGUS OFFICINALIS.

ASPARAGUS.

A culinary vegetable with which every one is acquainted. It was well known to the ancient Romans, and still holds its place as an epicurean delicacy. It has a thick, matted, tuberous root from which numerous branching stems arise; the leaves are bushy, narrow, thread-like and in clusters; the flowers are small, greenish-yellow, and axillary; the berry is round, scarlet or red, and contains two or three black seeds. In Europe it grows wild in many localities, but mainly in sandy places near the sea coast. It is sometimes found wild in this country, and is then seen in waste places.

Active principles.— Asparagin, (also in althæa,) oil of asparagus.

Part used.— The young shoots.

Form of preparation.— Tincture made by macerating one part of the young shoots with two of dilute alcohol one week, then filter; pale straw color, little taste or smell.

ASTERIAS RUBENS.

STAR FISH.

A marine animal quite common on the various coasts of Europe, living in water of moderate depth. It is shaped in exact resemblance to a five pointed star, is garnet red in color, and has the faculty of reproducing any member that has been accidentally lost. The central portion contains the mouth and stomach, the former being situated upon the under surface, and armed with hard papillæ in the place of teeth; the stomach is simply a globular sac. The nerous system is composed of a circular chain of ganglia from which nerve filaments are given off. An eye is situated at the extremity of each arm. The entire animal is supported by an external calcareous envelope or skeleton, covered with spines and tubercles. For locomotion, it is provided with numerous muscular tube-like processes passing out through foramina in the shelly covering, and arranged in double rows on both surfaces. Each of these terminate in a disk, depressed in the centre.

Part used.— The entire living animal.

Form of preparation.— Tincture made by digesting one part in five parts of alcohol for eight days, then filtering.

ATHAMANTA OREOSELINUM.

BLACK MOUNTAIN PARSLEY.

ATROPINUM.

ATROPIA. DATURIN.

$C_{17}H_{23}NO_3$.

This alkaloid contained in the atropa belladonna is obtained from the root by treating it with alcohol, sulphuric acid, solution of potassa and chloroform in a series of processes. When isolated it is in the form of white, silky crystals, without odor, and having a bitter taste. These are entirely volatilized by heat, and burn without ash, giving off at the same time an odor like benzoic acid.

Form of preparation.— Trituration. Slightly soluble in water, more so in alcohol. Tincture, saturated solution in alcohol.

ATROPINUM SULPHURICUM.

SULPHATE OF ATROPIA.

$C_{17}H_{23}NSO_6$.

This salt is formed by the action of sulphuric acid upon atropia. It is a white, slightly crystalline powder, very soluble in water and alcohol, insoluble in ether and chloroform. This salt is more frequently used than atropia, but has no other advantage over it than its solubility in water.

Form of preparation.-- Trituration. Solution in water or alcohol for tincture.

AURUM.

METALLIC GOLD.

Au.

This is one of the noble metals, and usually found native in the sand of rivers, constituting "gold dust," or in "pockets," when the pieces are called "nuggets." It also occurs in large quantities imbedded in quartz, from which it is separated by crushing, amalgamation and separation. Gold has been obtained at different times from Brazil, Hungary, British Columbia, the Ural mountains, Africa, Australia, and California. The Black Hills of Dakota are yielding it in considerable amount, and in former times it was mined in North Carolina. It is a yellow metal, varying in shade from orange to a pale yellow, according to the locality from which it is taken. When melted it is of an emerald green color. It is very malleable, very ductile and capable of being drawn into the finest wire. In coin it is alloyed with silver or copper to harden it.

Form of preparation.— Trituration of gold foil. Grind it to a powder in honey. Wash out the honey on the filter and transfer to sugar of milk. Or, precipitate from solution of muriate or cyanide by gallic

acid, wash and dry on the filter. Do not transfer to dilutions before the sixth decimal dilution.

AURUM FULMINANS.

AURATE OF AMMONIA. FULMINATING GOLD.

$Au_2 O_3 4NH_3 H_2$.

This is an explosive substance procured by the addition of ammonia to a solution of chloride of gold. The resulting precipitate is a yellow, tasteless powder,detonating whenever it is rubbed or struck, and on this account should only be kept in a pasteboard box.

Form of preparation.—Trituration. Jahr directs that "only centesimal potencies be used, the first and second with starch flour moistened with alcohol, the third with sugar of milk."

AURUM MURIATICUM.

TERCHLORIDE OF GOLD.

$AuCl_3$.

Prepared by dissolving pure gold in three times its weight of nitro-muriatic acid with a moderate heat, evaporating nearly to dryness. The crystalline mass thus obtained is of a deep red color, dissolving in water, alcohol or ether. It has a bitter, metallic after.taste, is deliquescent and sensitive to sunlight, and for these latter reasons should be enclosed in an amber colored, closely stopped vial. It is difficult to prepare this substance by trituration. Extremeiy poisonous.

Form of preparation.—Solution in distilled water. Trituration.

AURUM ET NATRUM MURIATICUM

CHLORO-AURATE OF SODA.

$NaCl\ AuCl_3\ 2H_2\ O$.

Chloride of gold and sodium is prepared by dissolving gold in nitro-muriatic acid, evaporating the solution to dryness, and dissolving this in eight times its weight of water, to which is added one part of decrepitated common salt dissolved in distilled water. The whole is then evaporated to dryness, leaving a golden yellow salt.

Form of preparation.—Trituration. Aqueous solution to saturation, transferred to dilute alcohol at third decimal dilution.

AURUM SULPHURATUM.

SULPHIDE OF GOLD.

$Au_2 S_3$.

Formed by passing sulphide of hydrogen into a solution of chloride of gold, the precipitate thrown down being thoroughly washed, golden yellow in color. Very insoluble.

Form of preparation.—Trituration. Transfer to dilution not before the sixth decimal.

BALSAMUM PERUVIANUM.

BALSAM OF PERU.

This is the product of a tree growing in Peru, Central America, and the Island of Trinidad. At one time it was supposed to exist only in Peru, hence its name. The tree is large and straight, with a coarse, compact, heavy bark, pale yellow in color, but often varies to an orange or reddish shade, according to the proportion of balsam contained in it. This is procured by beating the bark with clubs, after which incisions are made in it. In about fifteen days the juice flows freely, and is received on woolen rags; these are boiled in water to separate the balsam, which on cooling is deposited at the bottom of the vessel; the water rising to the top is then decanted.

Active principles.—Peculiar volatile oil, cinnamic acid, styrone, styracin, resin.

Form of preparation.—Tincture, saturated solution in alcohol.

BAPTISIA TINCTORIA.

WILD INDIGO.

An indigenous, bushy shrub, about two feet high, growing on hillsides, in woods and dry, poor soils, extending from Canada to the Gulf, and throughout the western states. The foliage is bluish-green; the flowers are a bright yellow, and in small, loose, terminal clusters. The fruit is oblong, bluish-black, and mostly one-sided. The plant can be made to yield a blue dye or pigment, but it is inferior to that of the true indigo. Two varieties are generally found in the situations occupied by this plant, with which it may be confounded, but they may be distinguished by their white flower.

Active principles.—An extractive, baptisin; bitter principle, and peculiar salt of lime.

Part used.—The root.

Form of preparation.—Tincture made by macerating one part of the fresh root in two of dilute alcohol; then filter.

BAROSMA CRENATA.

BUCHU.

A slender shrub growing at the Cape of Good Hope, and other parts of southern Africa. The leaves are gathered by the Hottentots who value them for their strong odor, which may be imparted to the skin by rubbing it with the powder. The bush is about two or three feet high, the angular branches having a brownish-purple color. The leaves are tough, and fibrous, and vary in length from three-quarters

to an inch and a half long, are glandular on the under surface, and have a strong penetrating odor and bitterish taste.

Active principles.—Volatile oil, extractive, resin.

Part used.—The leaves.

Form of preparation.—Tincture made by macerating one part of the leaves in five of dilute alcohol.

BARYTA ACETICA.

ACETATE OF BARYTA.

$C_2 H_3 O_2 BaO.$

A salt prepared by dissolving carbonate of baryta in chemically pure acetic acid, and crystallizing it by evaporation. It is rarely used, inasmuch as the carbonate is considered to possess all the medicinal properties contained in the acetate.

Form of preparation.—Trituration; solution to saturation.

BARYTA CARBONICUM.

CARBONATE OF BARYTA. WITHERITE.

$BaO\ CO_2.$

This mineral is met with as a gray, or yellowish-gray fibrous mass, occurring most frequently in Sweden, Siberia, Scotland and the north of England. It bears a certain resemblance to strontium for which it is apt to be mistaken. It may be procured artificially, by precipitation from a solution of chloride of barium, to which carbonate of ammonia or other alkaline carbonate has been added. Carbonate of baryta, or barium is white and heavy, having neither smell nor taste, and but slightly soluble in water or alcohol.

Forms of preparation.—Trituration. Dilution with the fifth decimal.

BARIUM IODIDUM.

IODIDE OF BARIUM.

$BaI_2.$

To obtain this salt, powdered carbonate of baryta is mixed with a boiling solution of iodide of iron. A double decomposition takes place in which iodine combines with the baryta. It may also be prepared by decomposing sulphide of barium, with a concentrated alcoholic solution of iodine. In either of these processes the precipitate that has formed, should be removed, and the solution containing the salt evaporated to crystallization. It is then in the form of crystalline needles, deliquescing readily, and decomposing by continued exposure to the atmosphere, during which the iodine is entirely dissipated. Therefore to preserve it, keep it closely stopped.

Form of preparation.—Solution in distilled water to saturation, and immediate reduction by dilution; filter.

BARIUM MURIATICUM.

CHLORIDE OF BARIUM.

$BaCl_2$. $BaCl_2\ 2H_2O$ (crystallized).

Prepared by dissolving carbonate of barium in muriatic acid, upon which a marked effervescence takes place, and when this has ceased, a gentle heat is applied. The solution is then filtered, and evaporated to such a degree that crystals will be formed on cooling. Another method consists in decomposing sulphuret of baryta with muriatic acid, sulphuretted hydrogen escaping and chloride of barium remaining in solution, from which it is obtained as in the former instance. The crystals are flat, square, and transparent, dissolving easily in water, nearly insoluble in alcohol, and have a bitter taste.

Form of preparation.—Trituration. Solution in distilled water. Transferred to dilute alcohol at third decimal, or second centesimal.

BELLADONNA.

DEADLY NIGHTSHADE. ATROPA BELLADONNA.

This is an herbaceous plant from one to four feet high, semi-trailing and a native of central and southern Europe, where it grows in stony places, about old walls, and among the rubbish of fallen buildings. In the United States it flourishes under cultivation, and is sometimes found wild. The root is long, creeping, branched, and from it arise several erect, branching, purplish stems, with entire, dusky-green leaves, given off in unequal pairs. The flowers arising from the forks of the stem and the axils of the leaves are solitary, bell-shaped, and of a bluish or greenish-purple color. The berries are round, and vary from the size of a currant to a filbert; at first green, then red, finally, a shining, purplish-black, having a sweetish, purple juice, and a number of kidney-shaped, pitted seeds. All parts of the plant are violently poisonous. The most vigorous plants grow on calcareous soil, therefore those grown on rich, loamy soil should not be used for medicinal purposes.

Active principles.—Atropine (daturin), a powerful alkaloid; atropic acid; belladonin (?); malate of atropia.

Part used.—The whole plant.

Form of preparation.—Tincture made by expressing the juice from the whole plant when beginning to flower, then adding an equal part of dilute alcohol. (2) Macerate in five parts dilute alcohol, two weeks; filter. Has a deep yellowish-brown appearance, narcotic odor and nauseous taste.

BELLIS PERENIS.

THE DAISY.

This plant is native in England and various parts of Europe. The leaves all spring from the root, and have a broad midrib. They are

from one to three inches long. The scape or flower stem is smooth, two to five inches in height and supports a single terminal flower; this is composed of a yellow disk fringed with white.

Part used.—The whole plant when in flower.

Form of preparation.—Tincture made by expressing the juice from the whole plant when in flower, then adding an equal part of dilute alcohol. Maceration in five parts of dilute alcohol, two weeks, and filtering.

BENZINUM.

BENZINE. HYDRIDE OF PHENYL.

$C_6 H_6$,

This substance is obtained during the distillation of petroleum, coming over at a temperature of 80 to 820°F. It is, when pure, a limpid, volatile, inflammable liquid, dissolving waxy, fatty, resinous and other organic substances, soluble in alcohol and ether, and having a strong, somewhat etherial odor. It is somewhat different from benzole with which it is often confounded.

Form of preparation.—Solution in alcohol; dilutions transferred to water not before the fifth decimal.

BENZINUM NITRICUM.

ESSENCE DE MIRBANE. NITRO-BENZOL. HYDRIDE OF NITRO-PHENYL.

$C_{12} H_5 NO_4$.

A yellow, oily, sweetish liquor, having the odor of bitter almonds, and is employed in flavoring confectionery, scenting fancy soaps, and the manufacture of flavoring extracts. It is prepared by the action of fuming nitric acid upon benzole, and washing the product with water.

Form of preparation.—Solution in alcohol. Transferred to water at third decimal, if desired.

BENZOIC ACID.

THE ACID FROM BENZOIN.

Benzoin is the product of the benjamin tree, a native of Sumatra, Borneo, Java and Siam. It is procured by making incisions in the bark, and collecting the hardened juice, consisting of tears and masses. The acid is obtained from this by sublimation. The gum is heated on an iron plate, previously covered with a conical paper cap, and the volatile acid rising, crystallizes on the sides of the cone. Crystallized acid, soluble in alcohol, quite insoluble in water. Most benzoates (salts of benzoic acid) are soluble in water.

Form of preparation.—Trituration. Solution in alcohol.

BERBERINUM.

BERBERINE.

This is the alkaloid contained in the root of the Berberis vulgaris. but is not peculiar to this plant, as it is also found in the roots of the cocculus palmatus, hydrastis canad., xanthoxylum, coptis and others. It is obtained in yellow, needle-shaped crystals, sparingly soluble in cold water, more so in alcohol, and possessing a very bitter taste. Hydrastina is nearly identical with berberine, solubilities differing considerably.

Form of preparation.—Trituration. Solution in alcohol for dilutions. Transfer to water at fifth decimal.

BERBERIS VULGARIS.

BARBERRY.

This plant is a native of Europe, but also grows wild in some parts of New England, inhabiting hard, gravelly soils. It is a spreading shrub about four or five feet high, and bears yellow flowers disposed in clusters of a dozen each; the stamens of these are very irritable, springing violently against the stigma when touched. The berries are oblong, grow in bunches, are bright scarlet in color, and have a sour taste. The root affords a bark that is used to dye yellow.

Active principle.—Berberine (see berberine).

Form of preparation.—Tincture made by macerating one part of the root gathered late in the fall, in five of alcohol, two weeks. Filter. Has a deep yellowish-brown appearance and bitter taste.

BISMUTHUM OXIDUM.

HYDRATED TEROXIDE OF BISMUTH.

BiO_3, H_2O.

This is a white precipitate obtained when to a solution of the nitrate of bismuth is added a solution of an alkaline base, as potassa or soda. The precipitate is the hydrate of the teroxide of bismuth. Filter and wash on the filter. The hydrate differs in medical qualities from the anhydrous oxide.

Form of preparation.—Trituration. Dilution made with fifth decimal or third centesimal.

BISMUTHUM SUBNITRICUM.

SUBNITRATE OF BISMUTH. (Basic.)

When metallic bismuth is dissolved in a sufficient quantity of dilute nitric acid, and the solution is poured into a given amount of water, a heavy, white precipitate (the subnitrate of bismuth) is thrown down. After some hours the water is decanted, and the salt

dried on blotting-paper. It is a heavy, white powder. slightly soluble in water, with a slight acid taste. Test for arsenic and antimony.

Form of preparation.—Trituration. Transferred to dilutions at fifth decimal.

BLATTA AMERICANA.

THE ROACH.

BOLETUS LARICIS.

POLYPORUS OFFICINALIS. LARCH FUNGUS.

A fungus of the mushroom family found growing upon the trunk of the larch. It varies in size from a child's fist to that of a child's head. It has a spongy substance, is reddish or brownish in color externally, white and fleshy within, and possesses a sweetish, bitter taste. It is very difficult to triturate, as it condenses under the pestle, it is therefore recommended to be grated and sifted through a fine seive, before triturating.

Active principles.— Boletic acid (fumaric acid), bolaretus. Fumarates soluble in water, but none of them soluble in strong alcohol.

Part used.—The entire fungus from which the outer coat has been removed.

Form of preparation.—Tincture made by macerating one part in five of dilute alcohol, two weeks. Filter. Trituration.

BOLETUS SATANUS.

A CRYPTOGAM.

A fungus growing in old wood during the summer and autumn. The head is large add tough, pale yellow, and pierced with reddish pores- The stalk is thick and deep red.

Part used.—The entire fungus.

Form of preparation.—Trituration. Transferred to water at fifth decimal or third centesimal.

BOLETUS PINUS.

BOMBYX CHRYSORRHŒA.

The brown-tailed moth.

Tincture of the living catapillar.

BOMBYX PROCESSIONEA.

THE PROCESSION MOTH.

ACIDUM BORACICUM.

BORACIC ACID.

BO_3, $3H_2O$.

This is an acid found native in the crater of a volcano in the Lipan islands, and quite abundantly in a volcanic region in Tuscany. It also has been found to exist in the sea water off the coast of California. The greatest export is made from Tuscany, where enclosures filled with water are built around hillocks that emit volcanic gases. This water becomes impregnated with the acid vapor and is drawn off, concentrated and allowed to crystallize. It is impure, containing alum, ammonium, magnesium and lime, and requires repeated crystallization for its purification.

Form of preparation.—Trituration. Saturated solution—anhydrous in water, crystalline variety in alcohol. Transfer to either medium at third decimal.

BORAX.—(See NATRUM BORACICUM.)

BOTHROPS LANCEOLATUS.

THE MARTINIQUE VIPER.

BOVISTA.

WARTED PUFF BALL.

The lycoperdon bovista is a fungus growing in Europe, on dead wood and dry soils. It is globe shaped, having a very short stem, smooth, soft and yellowish white when young, and finally brown. At first it is white and juicy internally, changing in time to a white cotton-like substance, becoming brownish-black, and dissipated in a cloud-like smoke when the fungus is struck. August and September are the months when it should be gathered.

Form of preparation.—Trituration, only the contents of the ball can be used for this purpose, as the envelope cannot be pulverized. Tincture may be made with dilute alcohol. Macerated two weeks and filtered.

BRACHYGLOTTIS REPENS.

PUKA-PUKA.

A shrub, sometimes a tree twenty feet high, growing in the northern island of New Zealand, and having broad, indented, glossy leaves, downy on the under surface. The flowers are large, clustered and fragrant.

Part used.—Green leaves and flowers.

Form of preparation.—Tincture made by macerating one part of the green leaves and flowers in two parts of alcohol, two weeks; filter.

BROMIUM.

BROMINE.

Br.

This element is widely distributed in nature, existing in the "bittern" of salt works, in sea water, salt springs, and in certain plants and marine animals. When obtained, bromine is a dark red liquid, strong and disagreeable to the smell, with a caustic, astringent taste. It is very volatile, soluble in strong alcohol and ether, less so in water, and bleaches vegetable substances. It stains the skin yellow, at the same time deadening and destroying it; gives off red fumes and at −4°F., becomes a hard, brittle substance.

Form of preparation.—Saturated solution in alcohol. Transfer to water at third decimal.

BRUCEA ANTIDYSENTERICA.

BRUCEA. FALSE ANGUSTURA.

This is called false angustura bark, but there is some doubt about its origin. The name is retained because its source is not yet definitely settled, but it is supposed, however, to have been the bark of the strychnos nux vomica, as this corresponds very closely with the description of the false angustura. A bush growing in Abyssinia is said to have claims for recognition as false angustura. The bark comes in rolls, sometimes in flat pieces, varying in thickness, mostly covered with a spongy, rust-colored and white-grey coating, and numerous yellow blister-like projections. Upon the fractured surface the bark is smooth, woody and yellow, externally darker, internally lighter, but not resinous. The inner surface is dark grey, sometimes dirty yellow. Compare with angustura vera.

Active principles.—Angusturin, (cusparin).

Part used.—The bark.

Form of preparation.—Tincture made by macerating one part of the bark in five of alcohol two weeks, and filtering.

BRUCINUM.

BRUCINE. VOMICIN. CANARAMIN.

$C_{23}H_{26}N_2O_8 + 7Aq.$

A crystallizable alkaloid from the bark and seeds of the strychnos nux vomica, angustura, and the galipeæ, bitter to the taste, and somewhat analogous to strychnine.

Form of preparation.—Trituration. Transferrable to water at fifth decimal. Tincture by saturated solution in alcohol.

BRYONIA ALBA.

WHITE BRYONY.

This is a climbing herbaceous plant, quite frequent in France and

Germany, where it is often seen growing in hedges and thickets. The leaves are alternate, heart shaped, five-lobed, rough and tuberculous on both surfaces; the flowers are small and yellowish; the berries are black, and about the size of a pea; the root is large, often the size of an arm or thigh, a foot or two in length, wrinkled in a circular direction, and has a bitter, disagreeable taste.

Active principles.—Bryonin, bryonitin.

Part used.—The root.

Form of preparation.—Tincture made by expressing the juice from the root before the plant flowers, then adding an equal part of alcohol. Also by macerating in four parts alcohol and one of distilled water, two weeks, and filtering. Tincture by expression will deposit starch on addition of alcohol. Filter in three to five days after.

BUFO.

THE TOAD.

BUFO SATYRIENSIS.

A SOUTH AMERICAN TOAD.

BUXUS SEMPERVIRENS.

BOX.

This evergreen is a native of Europe and Asia, but is cultivated in all parts of this country, as an ornament. The leaves are egg-shaped, cones dark green and shining; the flowers are pale yellow. It is generally shrubby, but if allowed to grow, it becomes a tree. The wood is hard and close grained, and is mainly used for carving and engraving. Infusion of the wood affects the perspiratory glands.

Active principles.— Buxine, (identical with beerin, from metandra).

Part used.—The leaves.

Form of preparation.—Tincture made by maceration of one part of the leaves in two of alcohol, two weeks; filter.

CACAO.

THEOBROMA CACAO. COCOA.

A large tree from twelve to twenty feet in height, growing in the West Indies, and other tropical countries. The fruit is round or oblong, six or eight inches long, and five in width, covered with fibres and enclosing a milky liquor, a white pulp, and a number of seeds.

The latter are aromatic, bitter, oily, and are made to yield chocolate and cocoa butter. The shells of the nuts are frequently used as a substitute for chocolate.

Active principle.—Theobromin, quite insoluble in water or alcohol. oil of theobroma.

Part used.—The seeds.

Form of preparation.—Trituration of the seeds. No tincture. Transfer to dilution at fifth decimal. Decoction.

CACTUS GRANDIFLORUS.

NIGHT BLOOMING CEREUS.

This species of cactus is found in Mexico and the West India islands, and sometimes met with in conservatories in this country. The stems are round, and have five or six prominent ribs studded with small, radiating spines. The flowers are large, being eight inches or more in diameter, with large, white petals. The peculiarity of this flower is that it expands only at night, exhaling a sweet odor something like benzoic acid or vanilla. The fruit is oval, covered with scaly tubercles, orange red, and contains a number of small seeds having an acrid taste.

Part used.—Young shoots and flowers, or entire plant if young.

Form of preparation.—Tincture made by macerating, for four weeks, one part in four of alcohol, and filtering.

CADMIUM MURIATICUM.

CHLORIDE OF CADMIUM.

$CdCl_2$.

A very soluble salt, crystallizing in small, four sided prisms. It is formed from cadmium, a white metal resembling tin, generally accompanying the ores of zinc. Soluble in water and alcohol. Deliquescent.

Form of preparation.—Trituration. Tincture made by saturated solution in either menstrua, separate.

CADMIUM SULPHURATUM.

GREENOKITE. SULPHIDE OF CADMIUM.

CdS.

A mineral known in nature as greenokite, and artificially formed when sulphuretted hydrogen gas is passed through a solution of the sulphate, nitrate, or chloride of cadmium. It is of a bright yellow color, and as a coloring matter possesses great brilliancy and permanence. Insoluble.

Form of preparation.—Triturations. Dilution made with fifth decimal.

CAINCA.

CAHINCA.

This is a Brazilian plant growing six or eight feet high, and bearing whitish flower. It is sometimes seen in the West India Islands. The root is about the thickness of a goose quill, marked with furrows of a dark color, and covered with a brown, resinous bark. Beneath this is a fleshy portion, and below this is a white wood. The odor of the root is strong, and similar to valerian.

Active principles.—Caincic acid, (cainca-bitter), soluble in alcohol

Part used.—The root.

Form of preparation.—Tincture made by macerating one part of the root, two weeks, in five of alcohol. Filter. The tincture has a light brown color and a repulsive, bitter taste.

CAJUPUTUM.

CAJEPUT.

This is a small, slender tree growing in the Moluccas and adjacent islands. The tree has a white bark, crooked stem and scattered branches, the twigs of which droop like those of the weeping willow. The leaves are lance-shaped, deep green, and from three to five inches long. The bark which is in plates, is very thick and ash colored. The flowers are small, white, and non-odorous. A green, volatile and inflammable oil is obtained from the leaves by distillation, and exported as a medicinal substance. The quantity obtained is small and it is often adulterated with oil of rosemary.

Active principles.—Oil of cajeput (a carbohydrate of cajeputene) cajeputene itself insoluble in alcohol or water.

Part used.—The oil from the leaves.

Form of preparation.—Solution in alcohol. Transfer to water at the third decimal.

CALADIUM SEQUINUM.

POISONOUS ARUM.

A bush growing on wet and marshy land in the vicinity of Parimaribo, and the marshes of the Sumiam river. The stem is four or five feet high, and contains a large amount of milky juice. The fluid makes an indellible stain when touched to linen, and if applied to the tongue, causes swelling, inflammation and loss of speech. The plant is found in hot houses under the name of trepenberchia.

Part used.—The root and leaves.

Form of preparation.—Tincture made by macerating one part in two parts of alcohol two weeks, and filtering.

CALCAREA ACETICA.

ACETATE OF LIME.

$CaO, C_4 H_3 O_3$.

This salt of lime is not frequently used, inasmuch as it possesses few points of difference from the carbonate, except its solubility in water. It is not triturated. It is procured by boiling oyster shells (previously cleansed in boiling water) with dilute acetic acid, and the fluid evaporated to one-fifth its bulk. The solution is then a deep yellow, precipitating a brownish mucilage on standing, after which the clear liquor is decanted, mixed with an equal bulk of dilute alcohol, and filtered.

Form of preparation.—Tincture, by saturated solution, as understood by the above preparation, transferring to alcohol after the second decimal, if desired.

CALCAREA ARSENITA.

ARSENITE OF LIME.

$3CaO_3, 2AsO_4$.

Insoluble in water that contains hydrate of lime in solution, to which it is liable. One variety, (basic) soluble in aqueous solution of arsenious acid.

Forms of preparation.—Trituration to the fifth decimal or third centesimal — may then be transferred to water.

CALCAREA CARBONICA.

CALCAREA OSTREARIA. CARBONATE OF LIME.

$CaCO_3$.

This substance is widely distributed, and occurs in great abundance. It is met with as limestone, constituting hills, bluffs and mountains, exists in vast beds, and is one of the ingredients of sea, river and well water. It composes marbles, chalk, stalactite, the skeleton of animals, shells, spars, and is a constituent of the various mineral springs. It is contained in all the varieties of coral, the egg shell, the bodies known as crab's eyes, and the different animal fluids and solids. The substances known as petrifactions are produced by the presence of this mineral in excess. Carbonate of lime, produced by precipitation, and held suspended in the water in considerable quantity, is known as milk of lime. See calc. caustica.

Part used.—The oyster shell.

Form of preparation.—A well cleansed oyster shell is bruised with a wooden mallet, and from among the fragments the inner snow-white pieces are selected. These are reduced to powder, and triturated with sugar of milk in the usual way. Dilution with fifth decimal trituration.

CALCAREA CAUSTICA

AQUA CALCIS. LIME WATER.

$CaO+Aq.$

Lime water when pure is a colorless liquid, having a caustic taste, and the odor of lime. On exposure to the air, it attracts carbonic acid from the atmosphere, forming a thin layer of carbonate of lime on the surface, or turns cloudy or even milky.

Form of preparation.— Saturated solution of "lime" (hydrated, slaked). Keep some undissolved in bottom of bottle, and decant when used. Do not filter; cork well, but do not "seal" the bottle.

CALCAREA FLUORICA.

FLUORIDE OF LIME.

$CaFl_2$

This occurs in nature as the mineral fluor spar, and is in the shape of cubic or octohedral crystals, having various colors. It is often met with in lead veins.

Form of preparation.—Trituration. Dilution in water with fifth decimal.

CALCAREA CHLORINATA.

CHLORINATED LIME

$CaCl_2+Cl_n$ (or $CaCl_2+CaCl_2\,O_2$.)

Chlorinated lime is a coarse, grayish-white, slightly moist powder, possessing a hot, bitter, astringent taste. It is a combination resulting from the action of chlorine gas upon hydrated lime. It gives off an odor of chlorine, dissolves freely in water, and is a useful disinfectant and bleaching agent.

Form of preparation.— Solution in water, and dilutions.

CALCAREA HYPOPHOSPHITA.

HYPOPHOSPHITE OF LIME.

$CaO, 2HOPO.$

This salt is procured by mixing slaked lime, water, and crude phosphorus, and boiling the whole together. The phosphate and hypophosphite of lime are formed during this process, the former falling as a precipitate, and the latter remaining in solution, while the inflammable gas, phosphoretted hydrogen, is vaporized. To obtain the hypophosphite, the filtered solution is evaporated to crystallization.

Form of preparation.—Trituration. Saturated solution of crystals for dilutions.

CALCAREA IODIDA.

IODIDE OF CALCIUM. IODIDE OF LIME.

CaI.

To a strong, fresh solution of carbonate of lime, (milk of lime), add any soluble iodide whose base will form an insoluble carbonate, as iodide of lead or iron. The lead or iron is precipitated as a carbonate. The liquid holds iodide of lime in solution. Filter, evaporate slowly. White crystals, lustrous like pearl, when pure. Decomposed readily. Very soluble and deliquescent.

Form of preparation.—Trituration. Better to start with a tincture of the saturated solution in water, and use undiluted alcohol in dilutions to the tenth decimal.

CALCAREA OXALATA.

OXALATE OF LIME.

$Ca''C_2O_4$ (in crystals $+4$ aqua).

This is formed wherever oxalate acid, or oxalic in solution is added to a soluble calcium salt, falling as a white precipitate. Filter, wash and dry. A substitution product, Ca'' taking the place of H_2 in oxalic acid. Soluble in 500,000 parts of water.

Form of preparation.—Trituration. Do not transfer to water before the sixth decimal.

CALCAREA PHOSPHORICA.

PHOSPHATE OF LIME.

$3CaO, PO_5$.

A mixture of the basic and other phosphates of lime obtained by dropping dilute phosphoric acid into lime water as long as a white precipitate falls. It also occurs in nature as the mineral appatite, and a component part of the osseous structure in animals. Water dissolves out a portion and leaves others.

Form of preparation.—Trituration.

CALCAREA MURIATICA.

CHLORIDE OF LIME.

$CaCl_2$.

Prepared when muriatic acid is saturated with pure carbonate of lime, (marble) and evaporated to dryness. It exists ready-formed in the waters of the ocean, and some mineral springs. It is a very deliquescent salt, hard, translucent, and in masses. It is soluble in both water and alcohol, and when mixed with powdered snow or ice, produces a great degree of cold.

Form of preparation.— Saturated solution in either water or alcohol, for dilutions. Do not mix the two solvents.

CALCAREA SULPHURICA.

GYPSUM, SULPHATE OF LIME. SELENITE.

CaO, SO_3 (calcium sulphate $CaSO_4$.)

This is found in large masses and in beds covering an extended area, sometimes being associated with rock salt. It is also a common ingredient of spring water. In the crystalline form it constitutes the mineral selenite. To obtain it artificially, sulphuric acid is mixed with a concentrated solution of chloride of calcium, the new salt falling as a white precipitate. Gypsum, dehydrated by heat, is "plaster of Paris."

Form of preparation.—Trituration. May be transferred to dilutions after the fifth decimal.

CALENDULA OFFICINALIS.

MARIGOLD.

The home of this plant is in the south of Europe, but it is also common in all parts of this country. The stem is angular, rising about two feet high, with oval or spatula-shaped, pale green leaves. The flowers are large, orange-yellow, and have a bituminous odor and a bitter taste. They are said to emit sparks during hot weather, resembling those of electricity. (?)

Part used.—The leaves and flowers.

Form of preparation.—Tincture, light brownish-yellow color, made by expressing the juice from the leaves and flowers gathered in summer, then adding an equal part of alcohol. Also by macerating in five parts of alcohol for two weeks, and filtering. Dilutions with alcohol to the third decimal.

CALTHA PALUSTRIS.

AMERICAN COWSLIP.

This plant, also known as the marsh marigold, grows in low, wet meadows. The flowers are cup-shaped, golden yellow, and measure one and a half inches in diameter.

Part used.—The whole plant when in flower.

Form of preparation.—Tincture made by expressing the juice of the whole plant when in flower, then adding an equal part of alcohol.

CAMPHORA.

CAMPHOR. OXIDE OF CAMPHENE.

$C_{20}\ H_{16}\ O_2$.

This is a product of laurus camphora, an evergreen tree growing throughout Asia and the island of Formosa. Other plants have camphor gums, but they are specified by the name of the plant. The

trunk is straight, freely branching with ribbed, smooth, shining, yellowish-green leaves. The flowers are white and disposed in clusters, and the fruit is a red berry. The tree abounds in a gum resin obtained by cutting the wood into chips, and subliming in covered metal or earthen dishes by the aid of steam. There are several native processes. It is afterward purified by resublimation. Camphor is a white, translucent, inflammable, volatile, tough, crystalline substance, sometimes granular, generally in masses, with a penetrating diffusive odor, and a peculiar, pungent taste. Isomeric with caryophyllin and ursone. It is readily precipitated from the alcoholic solution, by the addition of water.

Form of preparation.—Tincture is made by a saturated solution in alcohol. Rubini's tincture of camphor is made by dissolving equal parts of camphor and alcohol, and filtering. Trituration. Readily pulverizable by pouring a few drops of alcohol on the gum.

CAMPHORA MONOBROMICA.

MONOBROMATE OF CAMPHOR.

$C_{20}H_{15}BrO_2$.

Prepared by heating bromine and camphor together for several hours in a sealed tube at a temperature of 212°F. The crystalline mass resulting is washed, filtered through animal charcoal, recrystallized with alcohol, washed with an alcoholic solution of potassa, afterward with water, and is then crystallized from a mixed solution of alcohol and ether. It is a white, crystalline substance, soluble in alcohol, insoluble in water, and having a camphorous, bromine-like smell.

Form of preparation.—Trituration.

CANCER FLUVIATILIS.

THE CRAB.

This crustacean is found in rivers and small streams.

Part used.—The living animal.

Form of preparation.—Tincture made by pounding the living animal, and covering it with three parts of alcohol, allowing it to macerate for seven or eight days, then decant and filter.

CANCHALAGUA.

A plant of the gentian family, indigenous to California, where it is frequently used as a domestic remedy. It is also met with in South America. It is a small, grass-like plant, with lance-shaped leaves, and small, red blossoms, resembling those of the forget-me-not, and generally grows in patches.

Part used.—The whole plant when in flower.

Form of preparation.—Tincture made by macerating one part of the whole plant when in flower, in five of alcohol. Filter.

CANNA AUGUSTIFOLIA.

A plant growing about six feet high and found in Brazil, chiefly on wet lands near running water. The stem rises from a rhizome, and presents a number of knots from each of which large, alternate leaves are given off. The flowers are situated at the summit.

Part used.— The whole plant.

Form of preparation.—Tincture made by expressing the juice from the fresh plant in flower, then adding an equal quantity of alcohol.

CANNA GLAUCA.

IMBIRI.

A tuberous plant, native to the West Indies, and cultivated in the island of St. Kitt and Trinidad. It rises to a height of five or six feet, with smooth, purplish stems, and long, oval, dark green leaves, with purple edges. The flowers are small and red, or yellowish in color. The tubers which are larger than a double fist, yield a very superior starch.

Part used.—The leaves.

Form of preparation.—Tincture made by macerating one part of the leaves in five of alcohol. Filter.

CANNABIS INDICA.

INDIAN HEMP.

This variety of hemp grows in India and Persia, at an altitude from six to ten thousand feet above tide water. Botanists are agreed that there is but little difference between it and the indigenous or cultivated cannabiceæ, so far as appearance goes, but the climate or soil, or both, develop a peculiar principle, lacking in those grown in more temperate latitudes. It is from four to eight feet high, the stems and branches being covered with a sticky, resinous exudation. The flowers are small, greenish and solitary. The fruit is oval and contains a single seed. After flowering, the tops of the plants are cut off and tied in bundles. In India this is called *gunjah*. The Arab hasheesh plant is the same thing. *Bang* is the name given to the leaves and capsules when mixed together, and *churrus* is the resin gathered from the plant. These are all used for smoking, either alone or mixed with tobacco, to induce a pleasant, delirious state. The fibres of the plant are stronger than flax, and are used in the manufacture of ropes, cordage, etc.

Active principles.—Cannabin, a resin soluble in alcohol; volatile oil.

Part used.—The young leaves and twigs or tops.

Form of preparation.—Tincture made by macerating one part of the dried tops in five of dilute alcohol, and filtering.

CANNABIS SATIVA.

HEMP.

A native of Persia and the Caucasus, but cultivated in both hemispheres. It is similar in general appearance to the cannabis indica. It is usually about six or eight feet high, and bears male and female flowers. The latter are considered to contain a better quality of the active principles than the former. The fibres are stout, and are made into rope, twine, etc.

Part used.—The leaves and young twigs.

Form of preparation.—Tincture, of a dark, greenish-brown color, made by expressing the juice from the flowering tops, then adding an equal part of alcohol. Tincture made by macerating one part of the dried tops, in five of dilute alcohol, two weeks.

CANTHARIS VESICATORIA.

SPANISH FLY.

An insect inhabiting western Asia, Spain, Italy, the south of France and the Mediterranean countries. It is from half an inch to an inch long, and of a greenish-golden color. The head is large, heart shaped, and furnished with two black antennæ. The wings are brown and membranous, and covered by long, flexible, yet firm sheathes. The larva are hatched in the ground, and feed on the roots of plants until hatched, when swarms attach themselves to the trees; great numbers being made to fall by beating the branches with a pole, are received on spreading cloths, and afterward killed with the fumes of boiling vinegar, or by plunging them in the boiling liquid. They are afterward dried, and packed so as to exclude all moisture.

Active principles.—A crystalline, vesicating substance; peculiar green oil.

Part used.—The entire insect.

Form of preparation.—Tincture, greenish-yellowish, made by macerating one part of the flies in five of dilute alcohol; filter. Trituration.

CAPSICUM ANNUUM.

CAYENNE PEPPER.

This plant is a native of tropical Asia and America, growing about two or three feet high, and bearing an orange or scarlet pod. It is also met with in Africa, and the East and West Indies. Some varieties are cultivated in the kitchen garden. The pods are red, long, shrivelled, about the size of one's finger, conical at either end, enclosing white, kidney-shaped seeds. When the pods are powdered, they form the condiment known as red pepper, and have a fiery, burning taste, lasting a long time.

Active principles.—Capsicin, a resin; a supposed alkaloid; pectin.

Part used.—The pods and seeds.

Form of preparation.—Trituration. Tincture made by macerating one part of the pods, in five of dilute alcohol, and filtering. Color varies from yellowish, to pomegranate red. Dilute largely for external use — at least four times.

CARBO ANIMALIS.

ANIMAL CHARCOAL.

This is simply animal matter reduced to charcoal. It has been made from fresh meat, blood, white of egg, glue, etc., but more frequently from bones. When made from the latter it is specifically known as bone black, which is usually understood by the words carbo animalis. For Homœopathic pharmacy it is prepared from raw ox hide.

Form of preparation.—A thick piece of ox hide is allowed to burn between red hot coals until the flame ceases. While yet glowing, it is removed from the fire and instantly extinguished by pressing it between two hard, plane surfaces, (stones, slabs, etc.) This is triturated in the usual way, and may be transferred to dilutions after the sixth decimal.

CARBO VEGETABILIS.

VEGETABLE CHARCOAL.

Charcoal is obtained by the incomplete combustion of wood. It is tasteless and inodorous, black, porous, and breaks with a shining fracture. For medical purposes it should be brittle, have a metallic lustre, present the fracture of the wood, and burn without smoke. Only that which has been completely "carbonized" should be used. Beech and willow woods are employed, also boxwood, which produces a very fine coal.

Form of preparation.—Triturations. May be transferred to dilutions after the sixth decimal.

CARBOLIC ACID.

ACIDUM CARBOLICUM. PHENOL. HYDRATED OXIDE OF PHENYL. PHENIC ACID. PHENYLLIC ACID. PHENYLLIC ALCOHOL. SPIROL. SALICON.

$C_{12}H_6O_2$ or C_6H_5O, HO.

One of the products evolved during the distillation of coal tar, and also procured in the laboratory by heating salicylic acid in a glass retort, the phenol passing over into the receiver and crystallizing. In the pure state, and at ordinary temperatures, it is in the form of white crystalline plates or needles, having a burning, acrid taste, and the

odor of kreosote. These crystals absorb water from the atmosphere so greedily that in time it becomes entirely liquified. It is soluble in twenty parts of water, (after liquefaction), freely soluble in alcohol, ether, or glycerine. It has the property of checking putrefaction, animal or vegetable.

Form of preparation.—Saturated solution in water for tincture. First or second dilution for outward application.

CARBONEUM.

LAMPBLACK.

This form of carbon is produced by the imperfect combustion of oils or resins. Soot from the flame of a kerosene lamp is used.

Form of preparation.—Trituration. May be transferred to dilution after the sixth decimal.

CARBONEUM CHLORATUM.

TETRACHLORIDE OF CARBON.

$C Cl_4$

A colorless liquid, formed by passing the vapors of chlorine and bisulphide of carbon through a red hot porcelain tube. The product is distilled with potassa, during which chloride of sulphur is decomposed, and the tetrachloride of carbon passes over and condenses in the receiver.

Form of preparation.—Tincture is a saturated solution in alcohol. Water may be used in the fifth decimal and after.

CARBONEUM HYDROGENISATUM.

CARBURETTED HYDROGEN.

$C_2 H_4$

Ethene, or olefiant gas, is a colorless, neutral, gaseous body, slightly soluble in water, but more so in alcohol and ether, having an odor like garlic, and burning with a brilliant white light. It is one of the constituents of common illuminating gas. It is formed when alcohol and oil of vitriol are distilled together, and the vapor, passed through two wash bottles, one containing potassa, the other sulphuric acid, and finally collected over the pneumatic trough.

Form of preparation.—Saturated solution in alcohol for tincture. May be transferred to water at third decimal.

CARBONEUM OXYGENISATUM.

CARBONOUS OXIDE. PROTOXIDE OF CARBON.

CO.

This poisonous, inflammable gas may be seen during the combustion of anthracite coal, burning upon the surface with a pale blue

flame. It may be procured artificially by heating together in a retort powdered ferrocyanide of potassium and sulphuric acid. A large amount of the gas is given off, and collected by the pneumatic trough.

CARBONEUM SULPHURATUM.

ALCOHOL SULPHURIS LAMPADII. BISULPHIDE OF CARBON.

(See Alcohol sulphuris, p. 39.)

CARDUUS BENEDICTUS.

BLESSED THISTLE.

A native of Persia, Greece, and Southern Europe, but infrequent elsewhere. It is an herbaceous plant, about two feet high, branching at the top, with elliptical, rough, irregularly toothed leaves, barbed with sharp points at their edges.

Part used.—The whole plant, when in flower.

Form of preparation.—Tincture made by expressing the juice from the fresh plant, then adding an equal part of alcohol.

CARDUUS MARIANUS.

ST. MARY'S THISTLE. MILK THISTLE.

This is a plant confined almost entirely to southern Europe, and grows about two feet high. The leaves are smooth, shining, traversed by white veins, and have prickly lobes. The flowers are large, solitary, drooping and purplish. The thistle contains very little silk. The root is bitter, and the young leaves sour.

Active principles.—Volatile oil, centaurin or cnicin.

Part used.—The whole plant when in flower.

Form of preparation.—Tincture, made by macerating for eight days one part of the plant in two parts of alcohol diluted one-fourth with water; light brown color, little taste.

CARYA ALBA.

SHELL BARK. HICKORY NUT.

This tree grows throughout the Atlantic and western states, and is quite tall, often reaching a height of fifty feet, sometimes more. The bark is rough, shaggy, and in the form of plates, separated from the trunk at either extremity, and adhering only by the middle portion. The wood is strong, tough and elastic, and extensively used in the manufacture of axe helves, whip stocks, etc., where these qualities are required. The fruit encloses a hard, woody nut, containing an edible kernel.

Part used.—The inner bark.

Form of preparation.—Tincture by macerating the inner bark in two parts of dilute alcohol two weeks, and filtering.

CASCARILLA ELUTERIA.

CROTON ELUTERIA. CASCARILLA BARK.

There has been some confusion as to the species from which this bark is derived, but it is now determined to be the croton eluteria. This is a bush or small tree growing in the Bahamas, especially the island of Eleuteria. The leaves are long, narrow, pointed, bright green above, and of a silvery whiteness beneath. The flowers are disposed in long terminal spikes, and possess a delightful fragrance. When imported in this country, the bark is in the shape of irregular, quill-like pieces, two or three inches in length. These are of a dull red or reddish-brown color, and more or less covered with a grayish-white lichen. The odor is aromatic, and the taste bitter, hot and spicy. If thrown on burning coals, it burns freely, diffusing a pleasant. fragrant odor.

Active principles.—Cascarilla oil (essence), cascarillin.

Part used.—The bark.

Form of preparation.—Tincture, made by macerating one part of the bark in five of alcohol, two weeks, and filtering.

CASSAVA.

TAPIOCA. CASSAVA. MANDIOCA. JATROPHA.

This plant is known as cassava in the West Indies, and tapioca in Brazil, grows about six or eight feet high, and has a large, fleshy root, weighing twenty or thirty pounds. This root, after undergoing the processes of washing, scraping and grinding, drying, etc., is exported in the form of irregular, rough, white grains, having little or no taste and but slightly soluble in water. It is employed as a dietetic both for invalids and general use. There are two varieties of the plant, the sweet and the bitter. The root of the former is innocuous, but of the latter contains a milky, very poisonous juice. It has been ascertained by experiment to contain hydrocyanic acid. This poisonous principle is very volatile, and may be driven off by heat, leaving the root innocuous.

Active principles.—Hydrocyanic acid, volatile oil.

Part used.—The root.

Form of preparation.—Tincture made by macerating one part of the bitter root in five of alcohol.

CASTANEA VESCA.

THE CHESTNUT.

This tree equals in size the largest forest trees, and although distributed over the Atlantic states, is most abundant in Pennsylvania and New Jersey. The leaves are very large, averaging six inches in length, and two in width. These are brilliant in color, irregularly

serrated, firm and tough in texture. The flowers are whitish and arranged on peduncles several inches long. The fruit is a spherical burr, armed with prickly spines, radiating in every direction. It contains two or three brown plano-convex nuts having a firm, white kernel.

Part used.—The leaves.

Form of preparation.—Tincture made by macerating one part in two of very dilute alcohol, (or water with alcohol added as preservative), for two weeks. Filter.

CASTOR EQUI.

This is a small, flat, oblong, rough, dark, horny substance, seen growing on the inner side of the horse's leg above the "fetlock." It is the rudimentary thumb-nail of the horse.

Form of preparation.—Trituration.

CASTOREUM SIBIRICUM.

CASTOR FIBRE. THE BEAVER.

This animal furnishes a peculiar secretion formed in two membraneous, pear-shaped follicles situated between the external genitals and the anus. This product is of an oily, viscid, highly odorous nature, but when received in the market it is a solid, black or reddish-brown substance contained in wrinkled, flattened sacs. It is collected and exported from Russia, but considerable quantities are obtained from Missouri and the Hudson Bay territory. Age and moisture impair its virtues, and its adulteration is largely practiced. It has been ascertained to contain eighteen proximate principles.

Active principles.—Oil of castoreum; castorin; Salicin; volatile oils; salts of calcium, potassa and soda.

Form of preparation.—Trituration of the substance. Tincture made by macerating one part of the dried secretion in five of alcohol, two weeks. Filter. Ethereal extract contains more castorin.

CAULOPHYLLUM THALICTROIDES.

BLUE COHOSH. SQUAW ROOT.

A perennial glabrous herb with matted, knotted rootstalks, from which a single stem arises to the height of two feet. Near the summit this divides into two portions, one bearing large leaves and greenish yellow flowers, the other being simply a leaf stalk. The fruit is sweet and insipid; the seeds about the size of a pea are young and deep blue when ripe. The root is irregular, knotty, branched, pungent to the taste, and has a fragrant odor. The plant is found growing in all parts of the country, in moist, rich grounds, deep woods, near running streams and on wet lands.

Active principle.—The alkaloid caulophyllin.

Part used.—The root.

Form of preparation.—Tincture made by macerating one part of the root in two parts of dilute alcohol, two weeks, then filter.

CAUSTICUM.

HYDRATE OF POTASH. CAUSTIC POTASSA. KALI PURUM. POTASSA.

K_2O, H_2O, or HKO.

Boil potash solution with quick heat in untinned iron or silver vessel, until the fluid is viscid or syrupy, and cools solid on a glass rod—or until boiling ceases, and potash melts. Caustic potash destroys animal tissue. It is called "*Kali acris sine*," potash without acid, a name obsolete now.

Form of preparation.—Solution of pure caustic potassa in five parts of dilute alcohol. Dilutions in water or alcohol.

CEANOTHUS AMERICANUS.

JERSEY TEA. RED ROOT.

A small shrub about three or four feet high, growing in patches, particularly abundant in New Jersey. The root is dark red in color, and imparts its color to water, and sometimes is used for coloring. The leaves are egg-shaped, bright green in summer, but changing to a bright red in autumn. The flowers are white, and arranged in clusters; were used as a substitute for tea.

Part used.—The leaves.

Form of preparation.—Tincture made by macerating one part of the fresh leaves in two of dilute alcohol, one week. Filter.

CEDRON.

CEDRON.

The Simaba cedron is a small tree growing in New Grenada and Central America, rarely exceeding six inches in diameter. The top is branching, has large leaves and covered with pale brown flowers. The fruit has one edge convex, the other nearly flat, is of a yellowish-ash color, and contains a single seed about an inch and a half long, and half an inch in thickness. It has no odor, but possesses an intense bitter taste. It has quite a reputation among the natives for its asserted virtues in snake bites and hydrophobia.

Active principles.—Cedrin.

Part used.—The seeds.

Form of preparation.—Trituration of the seeds. Tincture, made by macerating one part of the seeds in five of dilute alcohol two weeks. Filter. The tincture has a light brown-yellow color, having a green-

ish opalescence in reflected light. It has a strong, bitter, and long-lasting taste.

CENTAUREA TAGANA.

CERASUS VIRGINIANA.

CHOKE CHERRY.

A small tree from five to twenty feet high, growing in woods and hedges in the northern states of this country, having a grayish bark, round white flowers, and a dark red globular fruit, very astringent to the taste. The bark of the tree has often been used for the prunus virginiana or wild cherry, but it is now admitted to be a distinct species.

Part used.—The bark.

Form of preparation.—Tincture of the bark. Aqueous tincture, one part of bark to five parts of water; and one part of dilute alcohol added after two weeks maceration, then filtering. Refiltering after alcohol has been added two days, if a sediment appears.

CERIUM OXALATUM.

OXALATE OF CERIUM.

$2CeO, C_4 O_6 + 6HO.$

A salt prepared from the metal cerium, by treating the minerals containing it until the basic sulphate of the peroxide is formed. This sulphate is dissolved in strong sulphuric acid, the solution digested with hyposulphite of sodium, filtered, and lastly treated with a solution of oxalic acid. The precipitate thrown down is the oxalate of cerium; this is a granular white powder, possessing neither smell nor taste.

Form of preparation.—Trituration. Transfer to dilutions after the fifth decimal.

CEREUS BONPLANDI.

A SPECIES OF GRANDIFLORUS.

Part used.—The stems.

Form of preparation.—Tincture.

CEREUS SERPENTINUS.

SNAKE CACTUS.

This species is a native of South America, and receives its name from its creeping nature and angular form. The round stem is from two to five feet long, about the size of the little finger, and articulated so as to give it a snake-like appearance. The flowers are bright pink, attain a large size, and continue in bloom for several days.

Part used.—The stems.

Form of preparation.—Tincture made by macerating one part of the stems in five of alcohol, two weeks, and filtering.

CERVUS BRAZILIENSIS.

A BRAZILIAN DEER.

Part used.—The hide covered with hair.

Form of preparation.—Trituration. (?)

CHAMOMILLA.

MATRICARIA CHAMOMILLA. FEVERFEW.

This annual is a native of Europe, but is occasionally seen in the flower gardens of this country. It prefers a gravelly soil, and grows in both cultivated and uncultivated lands. It is about two feet high, has a branching stem, and bears a profusion of flowers, composed of white petals and a yellow disc. Those used officinally are imported from Germany.

Active principle.—Oleum anthemidis, quercitron, crystallizable principle.

Part used.—The whole plant when in flower.

Form of preparation.—Tincture, made by macerating one part in five of dilute alcohol one week, and filtering. Greenish-brown color; taste and odor of the plant.

CHELIDONIUM MAJUS.

GREAT CELANDINE.

This plant is seen growing about old houses, and on rocky, stony ground, in various parts of this country. It has evidently become naturalized here, since it is native to Europe and some parts of Asia. It reaches a height of one or two feet, has a bright yellow flower, and contains a yellow juice which is poured out whenever any part of the plant is wounded. This fluid is contained in a special set of vessels, and when removed from the plant, stains yellow, becoming brown or brownish-black on continued exposure. The fruit is a knotted capsule, containing numerous shining black, pitted seeds.

Active principles.—Chelidonic acid, forming numerous vegetable and mineral salts. Chelidonin (chelidonia) and chelerythrin, two alkaloids. Chelidoxanthin. Chelerythrin is identical with sanguinarin. (Schiel).

Part used.—The root dug in April or May.

Form of preparation.—Tincture by macerating one part of the root in five of alcohol two weeks, and filtering. Tincture has a beautiful gold-yellow appearance, and a nauseating, bitter, acrid taste.

CHELONE GLABRA.

TURTLE HEAD. BALMONY. SNAKE HEAD.

A very common, indigenous plant, three or four feet high, growing in low, wet situations. The stems are quadrangular, herbaceous, with opposite, long, lanceolate, very bitter leaves. The flowers, large, ornamental, and arranged in a short spike, are pure white, sometimes tinged with red or purple, and so shaped as to resemble the head of a snake or tortoise, with the mouth open and tongue extended.

Part used.—The leaves.

Form of preparation.—Tincture made by expressing the juice from the recent plant, then adding an equal part of alcohol. Also by macerating in five parts of dilute alcohol two weeks, and filtering.

CHENOPODIUM ANTHELMINTICUM.

MEXICAN WORMSEED. WORMSEED. JERUSALEM OAK.

This is a strongly scented species of wormwood, growing in most parts of this country, but chiefly in the southern states, where it is often seen growing in the vicinity of rubbish, along fences, and in neglected places. The leaves are yellowish-green, and dotted on the under surface; flowers are of the same Tcolor. he seeds are small, not larger than the head of a pin, and possess the same strong, offensive odor as the rest of the plant. They have a bitter, pungent taste. C. ambrosioides yields a similar oil, and has quite the same effect. "Jerusalem oak" is more often applied to C. botrys.

Active principles.—Oleum, chenopodii, an essential oil.

Part used.—The seeds.

Form of preparation.—Tincture made by expressing the juice of the fresh plant when in flower, then adding an equal part of alcohol. By maceration, one part seeds to four of dilute alcohol, two weeks. Filter.

CHENOPODIUM OLIDUM.

CHENOPODIUM VULVARIA. ATRIPLEX OLIDA. FETID GOOSEFOOT.

This plant is found growing in the north of Europe, and is usually a low or procumbent plant, exhaling an extremely fetid odor, and possessing a salty, disagreeable taste. It contains a large amount of trimethylamin. The leaves are rhomboidal, green above, nearly white beneath, seemingly covered with a scaly powder. The flowers are axillary, and arranged on a simple spike.

Part used.—The entire plant.

Form of preparation.—Tincture is made by expressing the juice from the fresh plant, and adding an equal part of alcohol.

CHIMAPHILA UMBELLATA.

PIPSISSIWA. PRINCE'S PINE.

This widely diffused evergreen is native in the northern latitudes of Europe, Asia, and this country, extending in the latter to the Pacific coast. It grows in shaded woods, and prefers a loose, sandy soil, enriched by leaf mould. When bruised, it exhales a peculiar odor. The leaves are coriaceous, shining, dark green, and possess a sweetish-bitter, astringent taste. The flowers are small and purple. Never has been thoroughly analyzed.

Part used.—The whole plant.

Form of preparation.—Tincture made by macerating one part of the whole plant in two of dilute alcohol.

CHINA.

CINCHONA BARK. PERUVIAN BARK. CINCHONA OFFICINALIS.

This celebrated tree is a native of South America, flourishing chiefly in Peru, New Granada and Bolivia, upon the eastern slope of the great mountain ranges. The name Cinchona is derived from the countess of Cinchona, who was the first European cured of intermittent fever by its use. It is also called Jesuit's bark, from the circumstance of that fraternity first introducing it into Europe where it was sold for its weight in silver. There are three varieties of this bark, respectively known as, 1. Pale bark; 2. Yellow bark; 3. Red bark. These are valuable in the order enumerated. The finest specimen of the first variety is known as loxa or crown bark. The pale barks contain little quinine, but a large proportion of cinchonia; the yellow or calisaya barks are rich in quinia and poor in cinchonia; while the red or Colorado bark furnishes both in more equable proportions. The trees are not in forests by themselves, but in groups among the heavily wooded sections in which they are situated. The bark is gathered by men designated cascarilleros, who are trained especially to this work. Proceeding into the forests miles from any settlement, these men fell the trees and then decorticate them. When fully dry the bark is packed in bales or ceroons covered with rawhide and then exported.

Active principles.—Kinates of cinchonine (cinchonia), quinine (Chinin), quinadine, and other alkaloids combined with kinic acid.

Part used.—The yellow or calisaya bark.

Form of preparation.—Tincture, made by macerating one part of the dried bark in five of alcohol, two weeks, filter; reddish-brown color. Trituration.

CHININUM ARSENITUM.

ARSENITE OF CHININ (Arsen. of Quinia).

$2C_{20}H_{24}N_2O_2, AsH_3O_4 + 8H_2O$

This salt is prepared by boiling together in distilled water one part

of quinine and two parts of arsenious acid. A portion of this solution is added to a solution of quinia previously made in boiling water. Upon the mixture of these solutions a white precipitate is thrown down; this is washed and dried in the usual way. The salt is in the form of white silky needles, soluble in alcohol, but insoluble in water.

Form of preparation.—Trituration. May be transferred to water at third decimal. Saturated alcoholic solution for tincture.

CHININUM HYDROCYANICUM.

CYANIDE OF CHININ (Cyan. of Quinia).

$C_{20}H_{24}N_2\ O_2\ Cy.$

Boil two parts sulphate of quinia with three parts of cyanide of potassium. Filter, wash, precipitate, dissolve in alcohol. Evaporate to crystallization (?). [Ferrocyanide of Q. by substituting ferrocyanate of potassium for cyanide of potassium].

Form of preparation.—Trituration.

CHININUM HYPOPHOSPHITUM.

HYPOPHOSPHITE OF CHININ (Hypophos. of Quinia).

$C_{20}H_{24}N_2\ O_2, HP_2\ O, H_2\ O$

Sulphate of quinia twenty-five ounces, hypophosphorous acid one ounce, water one gallon. Heat in capsule to 200° and add hypophosphite of barium until reaction is complete. Filter the insoluble barium sulphate and wash. The filtrate contains the hypophosphite of quinia. Evaporate and cool. Crystals deposited. Bibasic. Soluble in sixty parts cold water.

Form of preparation.—Trituration. Transferred to dilution at third decimal.

CHININUM MURIATICUM.

CHLORIDE OF CHININ (Chloride of Quinia).

$C_{20}H_{24}N_2\ O_2, HCl + 2H_2\ O$

Boiling hot solutions of chloride of barium and sulphate of quinia, made separately in distilled water, are mixed and filtered while hot to separate the sulphate of barium that remains on the filter. On cooling, the solution of chloride of chinin crystallizes in white silky needles, which are soluble in water. This preparation has several advantages over the sulphate, among which is its greater stability and solubility.

Forms of preparation.—Trituration. Transfers to water at any attenuation. Saturated solution in water for tincture.

CHININUM SULPHURICUM.

QUININE. SULPHATE OF CHININ (Sulphate of Quinia).

Neutral—$2C_{20}H_{24}N_2\ O_2\ SO_3\ H_2\ O + 7H_2\ O$. Acid $C_{20}H_{24}N_2\ O_{20}SO_3\ H_2\ O + 7H_2\ O$, made by addition of SO_3 in prescribing the neutral.

This is generally understood when quinine is spoken of. It pos-

sesses no therapeutic advantages over the other salts of quinia, yet it is the preparation most frequently used. It is in the form of white prismatic crystals, interlaced or grouped in star-like tufts, and have an exceedingly bitter taste. Is soluble in alcohol, but sparingly soluble in water. Effloresces slightly on exposure to the atmosphere. When heated to a temperature of 212° F., and rubbed, it becomes luminous, decomposes, and then gives off an aromatic odor.

Form of preparation.— Trituration. May be transferred to dilutions at third decimal.

CHINOIDINE.

QUINIDIN.

In the manufacture of sulphate of quinia, and after the crystallization is complete, there is left a fluid known as the mother liquor. On the evaporation of this a dark colored substance is obtained, composed for the most part of quinia and cinchonia. This of necessity must be of uncertain strength. A more certain preparation is obtained by precipitating this salt in the presence of an alkaline carbonate. It is uncrystallizable, yellowish-white or brownish in color, and becomes a resinous looking mass on the application of heat.

Form of preparation.— Trituration. Transfer to dilutions after third decimal.

CHIONANTHUS VIRGINICA.

FRINGE TREE.

An ornamental indigenous shrub or small tree, chiefly found in mountainous districts from Pennsylvania to Georgia, and ranging in height from eight to twenty-five feet. The leaves are about a foot long and half an inch broad. The flowers are disposed in dense snow white clusters. The fruit is an oval, purple berry, containing a striated nut.

Active principle.— An important extract—saponin, obtained in larger quantities from saponaria officinalis. Saponin also goes by the name of senegin, polygallin, polygallic acid.

Part used.— The bark.

Form of preparation.— Tincture, made by macerating one part of the bark in five of dilute alcohol, two weeks, and filtering.

CHLORATUM.

HYDRATE OF CHLORAL. HYDRIDE OF TERCHLORACETYL.

$C_2\ HCl_3\ O + 2H_2\ O$.

This substance derives its name from the two substances composing

it, thus—*Chlor*ine *alc*ohol. Hydrate of chloral is made by mixing anhydrous chloral with water. Crystals are soon formed, generally of a tabular form, but sometimes in needles, composed of equal equivalents of chlorine and water, and are usually covered with a white powder. These have a pungent odor and a pungent, acrid taste. They are quite soluble in water, also in alcohol, and disengage heat during the process. Not permanent in solution.

Form of preparation.—Trituration in centesimal scale, made quickly. Saturated solution in dilute alcohol for immediate use, to form dilutions.

CHLOROFORMUM.

CHLOROFORM. CHLORIDE OF BICHLOROMETHYL.

$CHCl_3 = CHCl_2\,Cl$.

This agent was discovered in 1831 by Mr. Samuel Guthrie, of Sacketts Harbor, N. Y., and about the same time by Soubeiran and Liebig. The commercial article is produced by distilling calcium chloride with very dilute alcohol, separating the oily portion of the distillate, purifying it by agitation with water, drying with chloride of calcium and re-distilling in a water bath. It is a limpid, colorless, exceedingly volatile liquid, having a peculiar odor and a hot sweetish taste, burning with a greenish flame and boiling at 142° F. Nearly insoluble in water, soluble in alcohol.

Form of preparation.—Dilutions in alcohol. Water may be used after the third decimal.

CHLORUM. (Chlorinum).

CHLORINE GAS.

Cl.

A yellowish-green, suffocating, gaseous body, possessing in an extraordinary degree the property of bleaching any substance containing organic coloring matter. It is prepared by the action of hydrochloric acid on black oxide of manganese. These are mixed together in a retort, and on the application of gentle heat the gas is extricated. Collect over warm water trough for the gas, and a cold water trough for aqueous solution of it. Do not use the mercury trough. One volume of water will dissolve two volumes of gas.

Form of preparation.—Dilutions of chlorine solution in water. Do not add any alcohol. in the lower dilutions.

CHROMIUM TRIOXIDE.

CHROMIC ACID.

CrO_3, H_2O or $(CrO_2)'' 2OH$

One measure of a cold saturated solution of bichromate of potassa

added slowly to one and a half measures of sulphuric acid, will upon cooling deposit a mass of beautiful crimson red crystals. The chromic acid thus prepared has an acid, metallic taste, deliquesces on exposure, and is very soluble in water to which it gives a dark yellow color. It is bibasic, immediately reduced by organic matter. Great caution is to be observed in its local use, as it may cause a deep slough. It is a solvent of organic matter to such an extent that the bodies of mice and birds immersed in it are entirely dissolved.

Form of preparation.— Aqueous tincture and alcoholic tincture, by saturated solution in either. Aqueous is stronger, more permanent and preferable. Alcoholic tincture decomposed by sunlight.

CHROMIUM SESQUIOXIDUM.

CHROMIC OXIDE.

$Cr_2 O_3$.

By heating mercurous chromate to a red heat it becomes converted into green sesquioxide of chromium. It may also be prepared by exposing bichromate of potassium to a red heat in an earthen crucible. It is used in the arts for giving a green color to glass, for enamel painting, and in the manufacture of razor strops. Insoluble.

Form of preparation.— Trituration. May be transferred to dilutions after third decimal.

CICHORUM.

CHICKORY. SUCCORY.

A plant about two feet high, bearing large, compound, blue flowers. It grows both in Europe and this country, along fences in well settled localities. The leaves are eaten as a salad in Europe, and the root, when roasted, is used as a substitute for coffee. Besides this it is frequently used for the adulteration of genuine coffee. In France the consumption of the roots for the inferior beverage it affords amounts to millions of pounds annually.

Part used.— The root.

Form of preparation.— Trituration of the dried root. Tincture, made by macerating one part of the fresh root in two of dilute alcohol, two weeks, and filtering.

CICUTA MACULATA.

AMERICAN WATER HEMLOCK.

Botanically, this plant resembles the cicuta virosa or water hemlock of Europe. Like its relative, it is common in wet meadows, and about the margin of ponds, streams, etc. It grows about three feet high, with a purple-streaked stem, and bears a white flower. The root is thick and fleshy, resembling a parsnip, and consists of several long

tubes about a finger's length. These are very poisonous and have caused death when eaten in mistake by children.

Active principles.— Fixed and volatile oils, vegetable acids, conia(?) Cicutin.

Part used.— The root.

Form of preparation.— Tincture made by expressing the juice from the root, then adding an equal part of alcohol. Tincture by macerating one part in five of dilute alcohol, two weeks, and filtering.

CICUTA VIROSA.

COWBANE. LONG-LEAVED WATER HEMLOCK. WATER HEMLOCK.

This is a perennial plant, inhabiting low, wet localities, such as the border of ditches, wet meadows, swamps, the edges of ponds, lakes, etc. It is of most frequent occurrence in some parts of England, central Europe and western Asia. Goats, horses and sheep are not affected by eating it, but all other animals perish. The stem is about three or four feet high, hollowed and branched; the flowers are small and white. The root is thick, white, fleshy, cellular, full of hairs, and contains a yellow milky juice, having a strong odor and a disagreeable taste. It is to be distinguished from another hemlock, the conium maculatum.

Active principles.— Same as in cicuta maculata.

Part used.— The root.

Form of preparation.— Tincture, same as with cicuta maculata. Nauseous taste and deep red color.

CIMICIFUGA RACEMOSA.

RATTLEWEED. ACTEA RACEMOSA. BLACK SNAKEROOT. COHOSH. MACROTY'S RACEMOSA.

This is a tall, leafy, indigenous plant, ranging from four to eight feet in height, growing in upland, rocky woods from Maine to Florida. The leaves are large. The white flowers are arranged on long slender racemes and exhale a very offensive odor. The stamens of each flower number about a hundred, and give to the raceme the appearance of a plume, varying in length from six to twelve inches. The fruit is oval and contains numerous flat seeds, loosely arranged in two rows. Late in the autumn or during the winter, any motion given to the plant causes a rattling of these seeds in their dry capsule, which may easily be mistaken for the alarm of rattlesnakes. The root is thick, irregular, contorted, rough, jagged, and shows the scars made by the stems of former years.

Active principles.— Resins, gallic and tannic acids, wax, mineral and earthy salts, silica, volatile oil, cimicifugin (macrotin).

Part used.— The root.

Form of preparation.— Tincture, made by macerating one part of the root in two of alcohol, two weeks. Filter.

CINA.

MUGWORT OF JUDEA. ARTEMESIA CONTRA.

Asia minor, Africa, Persia and the levant furnish this species of wormseed. The flower heads are of a pale greenish brown, less than one-sixth of an inch in length and about half that diameter, fusiform and closely resembling seeds.

Active principles.—Santonine. An extractive forming salts with bases.

Part used.— The flower heads.

Form of preparation. — Trituration of santonine (santoninum). Tincture, made by macerating one part of the flower heads in five of alcohol, two weeks, and filtering.

CINNABARIS.

CINNABAR. SULPHIDE OF MERCURY. VERMILLION.

HgS.

This mineral abounds in Spain, Mexico, Peru, China and Hungary. It is the one from which quicksilver is extracted. This is manufactured to a great extent both in Europe and this country by combining mercury and sulphur, and heating this until sublimation takes place. There are two forms met with, viz., crystalline and powder masses. It has a brilliant red color, and is used as a pigment under the name of vermillion. Insoluble.

Form of preparation.—Trituration. May be transferred to dilution after the sixth decimal.

CINNAMOMUM ZEYLANICUM.

LAURUS CINNAMOMUM. CINNAMON.

The cinnamon tree grows in the islands of Ceylon, Sumatra and Java, and the Malabar coast. That coming from China is called cassia. It is twenty or thirty feet high, with a trunk twelve or eighteen inches in diameter. The leaves exhale a spicy odor when rubbed; the flowers are small, white and fragrant, and the fruit or berry is oval, bluish-brown when ripe, dotted with white spots, and have a taste like juniper berries. The substance called cinnamon suet is made from these by bruising, boiling and collecting the fatty matter rising to the surface. At the time of year when the sap is abundant the bark is easily peeled from the tree. The outer portion is rejected, and only the inner retained, dried, rolling itself into quills about the size of the little finger, as the drying progresses. The smaller rolls are then telescoped into the larger ones, so that the cylinder is

almost solid. This bark is of a rusty, yellow color, but little thicker than paper, has a spicy odor, and a warm, sweetish taste.

Active principles.—Oil (essential) of cinnamon. Cinnamonic acid, bassorin, extractive. Oil of cassia (Asiatic).

Part used.—The bark.

Form of preparation.—Tincture, made by macerating one part of the dried bark in five of alcohol, two weeks. Filter. Trituration.

CISTUS CANADENSIS.

FROSTWORT. ROCK ROSE.

A shrubby plant rising about a foot and a half high, bearing large bright yellow flowers, opening in the sunshine, and casting their petals by the next day. The fruit is a smooth, angular, shining capsule, containing a number of seeds. It thrives best in a mica-slate soil, seeming to require a talc or magnesian earth for its peculiar wants. Cultivated from the seed in Great Britian, it was found to have lost its medicinal properties, and on this account the attempt to propagate it was abandoned. On frosty mornings in the months of November and December, numerous broad, thin and curved ice crystals will be found protruding from the roots of this plant, lasting until melted by the sun, and being reproduced the following night.

Part used.—The whole plant.

Form of preparation.—Tincture, of a greenish-brown color, made by macerating one part of the whole plant in two of alcohol, two weeks. Filter.

CITRIC ACID.

ACIDUM CITRICUM. THE ACID OF LEMONS, LIMES, ETC.

$2C_6\ H_8\ O_7,\ H_2\ O.$

This acid exists in many fruits, such as lemons, limes, cranberries, tamarinds, red alderberries, strawberries, raspberries, gooseberries, as well as a number of others, but is principally obtained from the first two. The juice is allowed to ferment for a time, when the organic impurities settle to the bottom of the vessel. It is then saturated with chalk, or whiting in fine powder, forming citrate of calcium, which precipitates. This is washed with water and decomposed by sulphuric acid, sulphate of calcium is thrown down, the acid remaining in solution. It is then concentrated by heat and removed to cool vessels in which it crystallizes. To purify the acid, it is redissolved, digested with animal charcoal, filtered while hot, and allowed to crystallize.

Form of preparation.—Trituration of the crystals. The dilutions may be made with a saturated solution in alcohol.

CITRUS LIMONUM.

THE LEMON.

The lemon tree is cultivated in all tropical and subtropical latitudes, attaining a height of about fifteen feet, bearing a rich, dark green foliage. The flower is odoriferous, large and white, with a purplish tinge on the outer surface. The fruit is ovoid, about four inches long, two and a half in thickness, and covered with a thick yellow rind or skin. The inner portion is composed of a fibrous trabeculæ containing a highly acid juice (citric acid). It also contains limonin, citrene, citriline, oil of lemons, etc.

Part used.—The expressed juice.

Form of preparation.—Tincture made by expressing the juice from the fruit, then adding an equal quantity of alcohol.

CITRUS VULGARIS.

BITTER OR SEVILLE ORANGE.

This orange is native to the Mediterranean coast, and contains a bitter principle in the skin or rind, not resident in the other varieties. It yields an oil by distillation that is employed by the confectioner for flavoring, and by the perfumer in the manufacture of colognes, fragrant waters, etc.

Part used.—The fresh peel.

Form of preparation.—Tincture, made by macerating one part of the grated peel with two of alcohol, for two weeks, and filtering.

CLEMATIS ERECTA.

FLAMMULA JOVIS. UPRIGHT VIRGIN'S BOWER.

The south of France, Spain, Switzerland and Germany are the home of this plant, a variety is also cultivated in the garden. It is a climbing perennial, three or four feet high, bearing white, sweet scented flowers, and growing on woody hills and along hedges.

Active principles.—Clematidin and oil of clematitis.

Part used.—The leaves and stems.

Form of preparation.—Tincture, made by expressing the juice from the fresh leaves and stems, then adding an equal part of alcohol.

COBALTUM.

COBALT.

Co.

A brittle, white metal resembling nickel, with which it is often associated in nature. It derives its name from Cobald, one of the demons supposed to reside in the deep mines of Europe. The oxide of this metal is employed to communicate a beautiful blue color to glass. Insoluble.

Form of preparation.--Trituration. May be transferred to dilutions at sixth decimal.

COCA.

ERYTHROXYLON COCA. COCOA.

Must not be confounded with theobroma, or cocus nucifera, the cocoanut tree. A shrub growing wild in South America, but extensively cultivated in Bolivia for the sake of its leaves, which were in use in Peru at the time of the Spanish conquest. These are about the size and shape of tea leaves, about two inches long, and little more than an inch in width. They have a stimulating property said to be similar to that produced by tea or coffee, imparting greater vigor to the muscular and nervous systems, and the Indians of the country where it grows are reported to perform long and exhausting journeys under its influence. It has been used at La Pas as a substitute for quinine.

Active principles.—Cocoine, an alkaloid; cocotannic acid.

Part used.—The leaves.

Form of preparation.—Tincture, made by macerating one part in five of dilute alcohol.

COCCIONELLA SEPTEMPUNCTATA.

LADYBIRD.

An insect living on wheat, various plants, hedges, etc. The body is black, about the size of a pea, etc., and furnished with red wing covers marked with black points. The under side of the body is flat, the upper convex, the wing covers are separated by a sinus throughout their entire length. The head is small and situated in a depression and there are two twelve jointed antennæ. The insect contains a volatile acid juice, having an odor like opium.

Part used.—The entire insect.

Form of preparation.—Tincture made by macerating one part of the entire living insect in five of alcohol, two weeks, and filtering.

COCCULUS INDICUS.

INDIAN COCKLE.

This is a shrub having a corky bark, and found growing on the Malabar coast, and some parts of India. The fruit is roundish, kidney-shaped, about the size of a pea, and encloses a whitish, very bitter kernel, having strong poisonous qualities. In India a decoction is thrown into streams for the purpose of stupefying fish, so as to catch them easily. In this country it is employed in the adulteration of beer.

Active principles,—Picrotoxin, menispermin, cocculin.

Part used.—The seed.

Form of preparation.—Tincture, made by macerating one part of the broken seeds in five parts of alcohol, two weeks; brownish, straw-yellow color, and on being exposed to a temperature below 32°F. small groups of papillæ of margaric acid are deposited upon the sides of the vessel. These may be removed from the tincture without injury.

COCCUS CACTI.

COCHINEAL.

This is an insect that grows, feeds, and flourishes upon several of the West Indies. Its culture has also been introduced in the island of Teneriffe. The body of the insect is depressed, downy, and transversely wrinkled, with a purple under surface; the legs are short and black, and the insect is furnished with long, tapering antennæ. The female insects only are gathered, and are scrapped off the stalks, with a quill or blunt knife, a certain proportion being left to continue the species. They are killed by enclosing them in a bag and dipping it in boiling water, and afterward drying in the sun. They impart a magnificent red color to water or alcohol, and when precipitated from the solution by oxide of tin, form the brilliant scarlet coloring matter, carmine.

Active principles.—Tyrosin; fatty acid; Cochinilin; carminic acid.

Part used.—The entire insect.

Forms of preparation.—Tincture made by macerating for two weeks, one part of the dried insect in eight of dilute alcohol. Filter. Trituration alone contains the tyrosin to any extent.

COCHLEARIA ARMORACIA.

HORSERADISH.

This plant has a perennial root from which long corrugated, dark green leaves spring each year; the flowers are white, thick, clustered. The root is cylindrical near the top, but on descending expands into several stems. It is whitish, fleshy, and possesses a hot, biting taste, with a pungent odor. These latter depend on the presence of a volatile oil, materially lost by drying, and wholly so by boiling. It is the well known table condiment.

Active principles.—Volatile oil, nearly or quite identical with oil of mustard; powerful surface stimulant, penetrating, pungent; requires dilution for use.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the fresh root, in two of dilute alcohol one week. Filter. Distillation with water is required to secure the full strength with the oil.

CODEIN.

AN ALKALOID OF OPIUM.

$C_{18}H_{21}NO_3, H_2O$.

This alkaloid is obtained from the muriate of morphia with which it is combined, by treating the mixed muriate of morphia and codeia with ammonia, which precipitates the morphia. The codein, remaining in solution, is procured by evaporation and crystallization. These crystals are colorless, eight sided, and dissolve in alcohol and ether. One hundred parts of water dissolve one part of codein.

Form of preparation.—Saturated solution in alcohol for tincture.

COFFEA CRUDA.

COFFEE.

The coffee tree ranges from fifteen to thirty feet in height. The branches are white, the lower ones being long and spreading, while the upper are shorter and declining, thus presenting a pyramid-like shape. The leaves are four or five inches long, smooth, dark green and cover the tree throughout the year. The flowers are white, and exhale a pleasant odor. The fruit, about the size of a cherry, contains a soft pulp enclosing two pale green seeds that are surrounded by a thin membrane. These seeds are the well known coffee berries. The tree is native in Arabia, Abyssinia, and some parts of Africa, but has been introduced into, and successfully cultivated in Mocha, Java, Ceylon, Hindostan, Brazil, and the West Indies. The leaves possess the same properties as the seeds, and in the countries where the tree grows, are used in infusion as a beverage.

Active principles.—Viridic acid, coffeic acid, caffein and various salts of caffein. Chlorogenic acid. Caffein is known as guaranin and thein.

Part used,—The berries (Mocha. Unroasted).

Form of preparation.—Tincture made by pounding one part of crude coffee beans, and macerating for eight days in six parts of alcohol; the residue is then mixed with forty parts of distilled water, and then boiled until the filtrate added to the alcoholic tincture amounts to ten parts by weight. Trituration of the crude beans.

COFFEA TOSTA.

THE ROASTED COFFEE BERRY.

CAFFEINUM. (Coffeinum.)

CAFFEIN. THE ALKALOID OF COFFEA ARABICA.

$C_8H_{10}N_4O_2$.

To obtain this alkaloid, ground coffee is heated with benzine, by

which the active principle contained in the coffee is dissolved out. The solution is then distilled to dryness, and the residue boiled in water. The aqueous solution is then filtered and evaporated to concentration. On cooling, the coffein or caffein is deposited in white, silky needles, bitter to the taste, volatile and soluble in from thirty-five to fifty parts of alcohol.

Form of preparation.—Trituration. Saturated solution in alcohol for tincture.

COLCHICUM AUTUMNALE.

MEADOW SAFFRON.

A perennial bulbous plant, the leaves of which make their appearance in the spring of the year, in common with other plants, but the flower does not grow until autumn. It is seen in most all parts of Europe, England and Ireland, where it inhabits moist meadows and pastures. The leaves are about five inches long, spear shaped and erect. The flowers are tubular, rose or lilac colored, evanescent. The seeds are nearly round, reddish-brown, and possess many of the properties of the root. The root is a bulb about the size of a pigeon's egg, covered with a brown, membranous coat, and contains when recent, a milky, bitter juice. During the latter part of the summer, a new bulb is given off from the side of the old one; this latter grows the flower of the same year.

Part used.—The root.

Active principles.—Colchicine and colchiceine. "Hircine."

Form of preparation.—Tincture made by expressing the juice from the fresh root, then adding an equal part of alcohol. Trituration of the powdered seeds. Also by maceration in five part of alcohol two weeks, and filtering.

COLLINSONIA CANADENSIS.

STONE ROOT. HORSE-BALM. HEAL-ALL.

An indigenous plant found in moist woods and fields from New England westward to Michigan, and southward. It is about three or four feet high and bears a yellow flower, having the odor of lemons. The root is knotty, depressed, extremely hard, and gives off many slender fibres.

Active principles.—A crude extract—collinsonin. Not analyzed.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the root in two parts of alcohol, two weeks, and filtering.

COLOCYNTHIS VULGARIS.

BITTER CUCUMBER. CUCUMIS COLOCYNTHIS. BITTER APPLE.

A trailing plant, having for its home the Islands of the Archi-

pelago, some parts of Asia, the Cape of Good Hope, Turkey, Nubia, Japan and lower India. The hairy stem, resembling that of the watermelon or cucumber, runs along the ground or climbs anything in its path, attaching itself by numerous tendrils. The flowers are solitary, yellow, and marked with greenish veins. The fruit or gourd is globular, yellow, smooth, about the size of a small orange, with a hard rind surrounding a spongy, whitish pulp, containing within its meshes numerous white ovate seeds. When imported into this country they have been stripped of the hard envelope, and consist only of the dried pulp. This is exceedingly bitter.

Active principles.— Colocynthin, colocynthitin, and colocynthinin.

Part used.— The pulp of the fruit.

Form of preparation.— Tincture, made by macerating one part of the dried pulp in five of dilute alcohol, two weeks, and then expressing the moist pulp, adding alcoholic extract; filter. Dark straw color, very bitter taste.

COLOCYNTHINUM.

COLOCYNTHIN.

$C_{56}H_{84}O_{23}$.

Colocynth in powder is exhausted in the percolator with alcohol, or a strong macerated tincture obtained. This is evaporated slowly on a sand bath, or under the air pump. Add water to residue. Precipitate solution with acetate and subacetate of lead, and filter. To filtrate, add sulphurated hydrogen. Filter. Add tannic acid. Filter again. Dissolve residue in alcohol. Add subacetate of lead. Remove the excess of lead; digest filtrate with carbo an., filter and evaporate. Residue is colocynthin pure. Yellow color; bitter taste.

Form of preparation.—Saturated solution in dilute alcohol for tincture. Trituration.

COMOCLADIA DENTATA.

GUACO.

Very common in the Island of Cuba, growing near the coast or upon the savannahs, luxuriating mostly on barren or stony soil. This tree is six or eight feet high, having beautiful, dark green leaves, with a brownish border. The flowers are small, bluish-brown, and clustered like grapes. The trunk and branches contain a milky fluid that turns black on exposure to sunlight, discoloring the skin, linen, etc. It has a reputation for curing the bite of poisonous snakes, and a superstition is entertained that death results from sleeping in its shade.

Active principle.— Guacin.

Part used.— The leaves and bark.

Form of preparation.—Tincture, made by macerating one part of the leaves and twigs in two of alcohol, two weeks, and filtering.

CONINUM.

CONIA. CONIIN. CINICIN. CICUTIN.

$C_8 H_{15} N$.

This is the alkaloid contained in the conium maculatum, and is also called conia. One method of obtaining this is by distilling fresh hemlock bark with caustic potassa and water, neutralizing the distillate with sulphuric acid, evaporating to concentration, and alcohol added to precipitate sulphate of ammonium, separating this by filtration. A solution of caustic potassa is then added to the solution, after which it is re-distilled. Another method consists in mixing together an alcoholic extract of the fruit and a solution of caustic potassa, submitting the whole to distillation. Coniin is a yellowish, volatile, oily, exceedingly poisonous liquid, lighter than water, having a peculiar odor, and freely soluble in alcohol and ether, and also in water after dissolving, first, in four parts of alcohol. (Elliott).

Form of preparation.—Saturated solution in alcohol for tincture. Dilutions with either water or alcohol.

CONIUM MACULATUM.

HEMLOCK.

A very poisonous plant growing on the margin of streams, the borders of fields and roadsides, usually about four feet high. It has a round hollow stem, spotted with reddish or purple patches, with large spreading leaves, egg-shaped leaflets, and bears small, white, clustering flowers. The fruit is round or oval, composed of two plano-convex, easily separable seeds, having on their under surface five crenated ribs. The whole plant exhales an odor compared to that of mice, or the urine of cats. It is a native of Europe. The hemlock of Greece, Italy, and Spain is said to be more energetic in its effects than that growing in more northern latitudes.

Active principles.— Coniin, coniic acid.

Part used.—The entire herb when in blossom.

Form of preparation.—Tincture, made by expressing the juice from the fresh plant just coming into flower, then adding an equal part of alcohol. Maceration in five parts of dilute alcohol, two weeks. Filter. Color light, brownish-green ; very offensive, narcotic odor.

CONVOLVULUS ARVENSIS.

BINDWEED. BIRDWEED.

A twining plant growing in fields and pastures, from Maine to the

Carolinas, also in Germany and France. The stem is several feet long, either climbing or prostrate, hairy and milky, with pointed digitate leaves, from one to ten inches long. It bears a small, white bell-shaped flower, slightly tinged with red.

Part used.— The root, when the plant is in flower.

Form of preparation.— Tincture, made by macerating one part of the fresh root with two of alcohol.

CONVOLVULUS DUARTINUS.

A BRAZILIAN MORNING GLORY.

This is a twining plant, native to Brazil, luxuriating in the forests of that country, and climbing to the loftiest tree tops.

Part used.— The flowers.

Form of preparation.— Tincture, made by macerating one part of the flowers in two of alcohol, one week, and filtering.

COPAIBA OFFICINALIS.

BALSAM OF COPAIVA.

The tree from which this oleo-balsam is obtained grows in Venezuela, the Islands of Trinidad and Martinique, and several Brazilian provinces. It is tall and elegant, bears a thick crown of foliage, with leaves two or three inches long, and whitish flowers in terminal branched spikes. The fruit is an oval pod containg a single seed. By making deep incisions in the tree, a thin, colorless fluid exudes, becoming thicker and yellowish after a time. As offered for sale in this country, it is a pale yellow liquid of the consistence of olive oil, having an aromatic resinous odor and a hot, bitter, nauseous taste. The pure balsam is soluble in alcohol and ether. It is sometimes adulterated with turpentine and the fixed oils.

Form of preparation.— Dilutions in alcohol.

CORALLIUM RUBRUM.

RED CORAL.

This is the calcareous structure built by the coral zoophyte. It presents a great variety of forms, the most frequent, however, resembles a bush or tree stripped of its foliage. The superficial portion is entirely cellular and serves for the habitation of gelatinous polyps, all of whom are united by a common plasma. Carbonate of lime and oxide of iron enter largely into its composition.

Part used.— The axis of the branches.

Form of preparation.— Trituration of the axis of the branches of the red coral. Transfer to dilutions after the fifth decimal.

CORIARIA RUSCIFOLIA.

FOOT BERRY.

This is the Tupa-Kihi of New Zealand, a very poisonous plant, so much so that children and cattle have died in consequence of eating it.

Active principles.— Coriamyrtin. Volatile oil.

Part used.— The berries.

Form of preparation.—Tincture made by macerating one part of the berries in five of alcohol, one week. Filter.

CORNUS CIRCINATA.

ROUND-LEAVED DOGWOOD. GREEN OSIER.

On hillsides and along the banks of rivers or other water courses this plant is chiefly found. It rises to a height of six, eight, or ten feet, with green, spotted, or warty branches, bearing large, roundish, pointed leaves, waved on the edges, woolly and white on the under surface. The flowers are white and small, and the round fruit, hollowed at the base, is light blue in color. The bark, when fresh, is bright green, but when stripped and dried appears in whitish or ash-colored quills.

Active principles.— Cornin. Vegetable acids. Oil of cornus. Salts of iron and potassa.

Part used.— The inner bark.

Form of preparation.— Tincture, made by macerating one part of the recent bark in two of dilute alcohol, two weeks, and filtering.

CORNUS FLORIDA.

DOGWOOD.

This tree is quite common in all the forests of this country, particularly in the middle states, and has an average height of fifteen feet, although it may attain a height of thirty feet. The leaves are oval, about three inches long, and towards the close of summer become marked with black spots and turn red on the approach of cold weather. In the spring of the year this bears large festoons of white flowers, and makes a very showy appearance. The fruit consists of clustering scarlet berries, remaining until the first frosts. The dried bark is in irregular, reddish-gray, very brittle quills, with little smell but a bitter, aromatic taste.

Active principles.— Same as cornus circ.

Part used.— The bark of the twigs and root.

Form of preparation.—Tincture, made by macerating one part of the bark of the twigs and root in ten of dilute alcohol, two weeks, and filtering.

CORYDALIS FORMOSA.

TURKEY PEA. STAGGER WEED. TURKEY CORN. CHOICE DYELITRA.

Growing mainly in the middle and western states of this country, this plant is met with in hilly, mountainous or wooded situations, especially where the soil is rich. The root or bulb is dark yellow in color when fresh, becoming paler on drying. There is little or no odor, and the bitter taste changes to a disagreeable after-taste. The flowers are arranged in bunches, each consisting of eight or ten reddish-purple, nodding individuals.

Active principles.— Corydalin. Fumaric acid. Resin. Oils. Bassorin.

Part used.— The tuber.

Form of preparation.— Tincture, made by macerating one part of the tuber with two of alcohol, two weeks, and filtering.

COTYLEDON UMBILICUS.

WALL PENNYWORT. NAVELWORT.

This is a small plant about six inches high, and a native of England, where it grows upon old walls, rocks and sandy banks. Its flower stem bears a number of pale yellow, beet-shaped, pendulous flowers. It is not found in this country.

Active principles.— Large number of extractives, inorganic salts and trimethylamin.

Part used.— The entire plant.

Form of preparation.—Tincture, made by macerating one part of the entire plant in two of alcohol, two weeks. Filter.

CROCUS SATIVUS.

SAFFRON.

The plant is a native of Asia minor, but is extensively cultivated for export in Sicily, Spain, Italy, France, England, Egypt, Persia and Cashmere. Attempts have been made to grow it largely in Peru. In this country it is one of the tenants of the flower garden. It is a bulbous plant, with a long, white, slender tube, upon which a beautiful lilac or bluish-purple flower grows. The stigmas of these latter are thread-like, and an inch or more in length, broadened at the summit, and have an orange or orange-red color.

Active principles.—Safranin, polycroite, crocic acid.

Part used.— The dried stigmas.

Form of preparation.— Trituration of the dried stigmas. Tincture made by macerating one part of the dried stigmas in five of alcohol, two weeks, and filtering. Deep golden yellow color.

CROTALIS HORRIDUS.

THE RATTLESNAKE.

Fangs of the reptile are extracted in some cases, and immersed in alcohol. Another method is to enrage the snake, and then induce it to bite repeatedly into an absorptive substance, which is subsequently macerated in alcohol. Neither preparation can be relied upon as answering to the provings obtained from bitten persons—(*a*) from the changes taking place by stomach digestion, and (*b*) from chemical changes when treated with alcohol, meats, or any hydrocarbons. Provings of the preparations are reliable.

Part used.—Pure virus from the sac at the root of the tooth fang.

Form of preparation.— Trituration of the pure, fresh virus in sugar of milk, or its solution in water are probably most reliable.

CROTALIS CASCARILLA.

A BRAZILIAN RATTLESNAKE.

"This terrible serpent is found in Brazil where it attains a length of four or five feet. The head is oval and triangular and the upper surface of the body covered with scales, the dorsal scales being keeled and lanceolate; the scales of the tail are quadrangular and smaller. The belly is provided with one hundred and seventy large, transverse plates, twenty-five plates belonging to the tail. The extremity of the tail is furnished with seven or eight capsules of the consistence of parchment, which when agitated, produce a shrill sound. In color it is a yellowish-brown, much lighter under the belly, with twenty-four rhomboidal lines on each side of the back." The poison acts with frightful intensity, when injected into the circulation.

Part used.—The virus.

Form of preparation.—Trituration of the virus with sugar of milk in the proportion of one to ninety-nine, or solution in water.

CROTONIN.

CROTONIC ACID.

$C_4 H_6$

This substance, derived from croton tiglium, unites with bases to form numerous salts.

Form of preparation.— Saturated solution in alcohol for tincture.

CROTON TIGLIUM.

CROTON. TIGLIUM OFFICINALE

This is a small tree or bush growing in India, the Molucca Isles, Ceylon and Malabar. The bark is grayish-green and smooth, and the leaves are dark green, pointed and serrated. The straw colored

flowers are disposed in spikes. The fruit is a smooth capsule, about the size of a filbert, containing three seeds or almonds. These seeds are burning and acrid to the taste, and yield an oil having a pale yellow or reddish-brown color. This has a hot, acrid taste, lasting for many hours, and causing great local irritation. The dark, English, expressed oil is soluble in alcohol, but the pale oil is insoluble and forms a white, opaque cloud, that settles to the bottom of the vial.

Active principles.— Crotonic acid (Crotonin.) and crotonates. Crotonol. Cascarillin (?). Croton oil. Tiglinic acid. Angelic acid (?)

Part used.—The seeds or oil already extracted.

Form of preparation.—Tincture, made by macerating one part in two of alcohol, two weeks, and then filtering. Dilutions may be made directly from the oil, (the first decimal being filtered if necessary) or from the plant tincture. Trituration of the dried seeds.

CUBEBA OFFICINALIS.

CUBEBS.

A climbing, perennial plant, growing in Java, Penang, Ceylon, New Guiana and Peru, and some parts of the East Indies. The fruit is a clustering berry resembling pepper grains, having an agreeable, aromatic taste. As imported, they are round, blackish, about the size of a pea, with a short stalk attached, from which a series of raised fibres pass on to, and around the berry. The shell is hard, woody, enclosing a single seed with a blackish coat, white internally, and quite oily. To the taste it is warm, bitter and aromatic, followed by a sense of coolness, like that produced by peppermint. With age cubebs become inert, in consequence of the escape of the volatile oil upon which its qualities depend.

Active principles.—Cubebin, resin, extractive, cubebene, C. camphor.

Part used.—The berries.

Form of preparation.—Tincture, made by macerating one part of the ripe berries in five of alcohol, two weeks. Filter and express the debris, adding the extract to the alcoholic filtrate; color light brown.

CUNDURANGO.

CONDOR PLANT.

A plant, or plants, from New Grenada. It is a vine growing ten to thirty feet in length.

Active principle.—Oleo-resin.

Part used.—The bark of the stems (vine).

Form of preparation.—Trituration of the dried bark of the stem, (vine). Tincture by maceration in five parts of dilute alcohol, two weeks and filtering.

CUPRUM.

CUPRUM METALLICUM. COPPER.

Cu.

This metal exists both as metal and the ore, the latter being the most common. It is mined in a number of localities in this country, but is especially abundant in the Lake Superior region. The finest copper in the world is found in the isle of Cypress. In Europe, the mines of Cornwall, Fahlum, and the Pyrenees are the most important. Copper is a brilliant, reddish metal, capable of being hammered and drawn out to almost any degree without losing its tenacity, a good conductor of heat and electricity, and in connection with zinc, a generator of electricity.

Form of preparation.—Trituration of the precipitated metal. (See Introduction.)

CUPRUM ACETICUM

"NORMAL" ACETATE, AND NOT VERDIGRIS. ACETATE OF COPPER. SALT OF VENUS.

$(C_2 H_3 O_2)_2 Cu'' + Aq.$

This salt is prepared by dissolving virdigris in hot acetic acid, and when the filtered solution has cooled, it is found to have crystallized in dark green, soluble crystals. Efflorescent, rich green color, dissolves in water without residue.

Form of preparation.—For tincture, a saturated solution in dilute alcohol. Triturations.

CUPRUM AMMONIO-SULPHURICUM.

AMMONIO-SULPHATE OF COPPER.

$2(NH_3), Cu''O, SO_3.$

A dark blue, crystalline, soluble salt, prepared by rubbing together in a mortar, sulphate of copper and carbonate of ammonium. Reaction takes place by which the water of crystallization is extricated from the copper, and carbonic acid gas given off from the ammonia, occasioning an effervescence. At the same time the color of the mass changes from the light blue of the copper salt, to a deep azure, and has an ammoniacal odor, with a metallic taste. It is then dried and put in dark bottles.

Form of preparation.—Tincture, by saturated solution in water. Alcohol may be used after the sixth decimal. Trituration, kept in dark air-tight bottles, should be prepared freshly unless closely kept.

CUPRUM ARSENITUM.

SCHEELE'S GREEN. ARSENITE OF COPPER.

$CuH, AsO_2.$

A bright, yellowish-green, insoluble powder, prepared by mixing a

solution of sulphate of copper with the arsenite of soda, potash or ammonia. Collect precipitate, washy and dry.

Form of preparation.—Trituration. May be transferred to dilutions after fifth decimal.

CUPRUM CARBONICUM.

CARBONATE OF COPPER.

$2CuO, CO_2, H_2O$.

This occurs in nature as malachite, azurite, and verditer, but may be obtained artificially by adding carbonate of sodium in excess to a solution of sulphate of copper. The precipitate is floccular and pale blue, but on applying gentle heat, becomes greenish. Collect and wash on filter.

Form of preparation.—Trituration. May be transferred to dilutions after sixth decimal.

CUPRUM MURIATICUM.

BRUNSWICK GREEN. CHLORIDE OF COPPER.

$CuCl_2$.

A copper salt prepared by dissolving suboxide of copper in hydrochloric acid, concentrating the solution by heat. The crystals that form are green and very soluble in water, and somewhat less so in alcohol. The hydrated oxychloride occurs native in the mineral atacamite.

Form of preparation.—Trituration. Tincture, a saturated solution in water — alcohol may be used in any dilution.

CUPRUM NITRICUM.

NITRATE OF COPPER.

$Cu''(NO_3)_2\ 2H_2O$

When metallic copper is dissolved in nitric acid, it assumes the form by evaporation, of blue, deliquescent, highly corrosive crystals, which is the soluble normal or neutral salt. The basic salt is green and insoluble.

Form of preparation.—Tincture, a saturated solution in alcohol. Dilutions may be made with water or alcohol.

CUPRUM SULPHURICUM.

BLUE VITRIOL. SULPHATE OF COPPER.

$CuSO_4\ 5H_2O$.

By dissolving cupric oxide or monoxide of copper in sulphuric acid, and evaporating to crystallization, the salt known as blue vitriol is formed. It is very soluble in water, to which a deep blue color is imparted.

Form of preparation.—Tincture, saturated solution in water. Alcohol may be used for dilution.

CURARE.

WOORARI. WOURARI.

The South American Indians, particularly those of British Guiana, prepare a substance to which the above names are given, using it to dip their arrow heads into. When these are shot into the flesh of men or animals, death is sure to result from the rapid effects of the poison. There is much speculation as to its composition, but it is generally supposed to be made from various species of strychnos, with which is mingled serpent poison, toad venom, etc., resins or gums being added to give consistence to the whole.

Form of preparation.—Trituration of the dried curare.

CYCLAMEN EUROPÆUM.

SOW-BREAD.

This tuberous plant is indigenous in the south of Europe and in Western Asia. It is naturalized in England and America, where it is cultivated in the flower garden. The root is tuberous, roundish, brown, almost black, externally, white internally, and when fresh has a bitter, burning taste. The flowers are purple, with drooping, reflected petals. The fruit is a berry enclosed in a capsule. When the flowers die, the stalk rolls up, carrying the encapsuled berry down to the ground. It has received its common name from the fact that hogs are very fond of the root.

Active principle.—Arthanitin (cyclamin).

Part used.—The root gathered in the spring.

Form of preparation.—Tincture made by expressing the juice from the fresh root gathered in the spring, then adding an equal part of alcohol; also by macerating in five parts of alcohol for two weeks, and filtering.

CYPRIPEDIUM PUBESCENS.

YELLOW MOCCASIN. LARGE YELLOW LADIES' SLIPPER.

This plant is indigenous to this country where it is also known as the yellow moccasin, from its resemblance to the Indian shoe. It grows about two feet high, with several flexible stems, having many large, plaited leaves. The flower is large, yellow, showy, has no odor, and is an inch or more in length. The perennial, wrinkled, almost horizontal root, bearing many scars of the stems of previous years, gives off a number of long, fleshy rootlets, turning abruptly downward. All parts of the root have a peculiar nauseous smell and taste. It often happens that the roots of other varieties are fraudulently mixed

with, and sold for this plant, and it is exceedingly hard to distinguish them by the appearance of the root alone.

Part used.—The root gathered in autumn.

Form of preparation.—Tincture, made by macerating one part of the root in two parts of alcohol, two weeks. Filter.

DAPHNE INDICA.

INDIAN DAPHNE.

A shrub very closely resembling the laurel, native in China, and grown in botanical gardens. It is about two feet high. The flowers are white and inodorous, and grouped in bunches of ten or fifteen at the top of the branch. Belongs to the mezereum family.

Active principles.—Daphnin. Daphnetin. Volatile oil.

Part used.—The bark of the branches.

Form of preparation.—Tincture, made by macerating one part of the bark of the branches in two of alcohol, two weeks, and filtering.

DATURA ARBOREA.

This is a native of Peru and the coast of California, and is also cultivated. The flowers are long, tubular, bent downward, of a snow-white color, and possess a very sweet odor. This plant belongs to a family of which D. stramonium is the type. D. ferox (Chinese datura) and D. metel (Indian datura) belong to this family, and have same medicinal principles.

Active principle.—Datura or daturin, said to be identical with atropia.

Part used.—The flowers.

Form of preparation.—Tincture, made by macerating one part of the flowers in five of alcohol, two weeks, and filtering.

DELPHINUS AMAZONICUS,

THE DOLPHIN.

This dolphin inhabits the mouth of the river Amazon, is nine or ten feet long, body large and cylindrical, brownish-gray on the back, and pure white on the belly. The jaws are long, narrow, and contain twenty-six conical teeth on each side. There are three large fins, two pectoral and one dorsal. The skin is thick and fibrous.

Part used.—The hide.

Form of preparation.—Trituration of the hide.

DEMATIUM PETRÆUM.

A FUNGUS OF THE FAMILY OF MOULDS.

Form of preparation.—Tincture.

DERRIS PINNATA.

Part used.—The entire plant.

Form of preparation.—Tincture by maceration.

DICTAMNUS FRAXINELLA.

FRAXINELLA.

This perennial plant is found in Southern Europe, growing in mountainous woods or upon stony, rocky hills, and is about two feet in height. The upright stem is angular, streaked, and contains a number of red, resinous glands. The flowers are either pure white or red, striped with a darker shade. The seeds are black and oval. The whole plant exhales a resinous odor.

Active principles.—Volatile oil, resin.

Part used.—The entire plant.

Form of preparation.—Tincture, made by expressing the juice from the fresh leaves, then adding an equal part of alcohol. Also by maceration in five parts of dilute alcohol, two weeks, and filtering.

DIGITALINUM. (Digitoxinum.)

DIGITALINE.

The active principle of digitalis is a white, crystalline substance, odorless, but intensely bitter, soluble in alcohol, sparingly in water. It causes violent sneezing when powdered. Digitaline is the generally accepted title of a principle known by some as digitoxin.

Form of preparation.—Trituration. Dilutions after third decimal.

DIGITALIS PURPUREA.

PURPLE FOXGLOVE.

The foxglove grows wild in central and southern Europe, where it inhabits gravelly or clayey soils, but is cultivated in this country both as an ornament and for its medicinal uses. The downy, leafy stem stands from two to five feet high, and terminates in a spike of pendulous, bell-shaped, purple flowers; are white internally and spotted with black, and guarded by long, soft hairs at the mouth. The leaves have a wrinkled, velvety surface, and bitter, nauseous taste. The seeds, many and small, are contained in a two-celled capsule. Digitalis contains many proximate principles.

Active principles.—Digitaline (digitoxin.) Volatile oil, fatty oil, digitalic acid, "digitalicrin," digitalosmin.

Part used.—The leaves of the second year's growth of the plant.

Form of preparation.—Tincture, made by expressing the juice from the leaves, then adding an equal part of alcohol. Also by macerating one part in five of dilute alcohol two weeks, and filtering. Dark, brownish-green color, offensive.

DIOSCOREA VILLOSA.

WILD YAM. COLIC ROOT. HAIRY YAM.

A perennial, creeping, or twining plant, indigenous from Maine to Wisconsin, and having a long, branching, crooked root, that sends out numerous fine, elastic and tough fibres. The texture of the root is so woody, that it is very difficult to triturate it. The vine twines around small shrubs or young trees, sometimes ascending to a height of six feet. The leaves are heart-shaped with the point turned on one side ; the flowers are small and white, and the seeds triangular. The plant receives its name from Dioscorides, an ancient naturalist. Dioscorein is an extractive precipitated by water from an alcoholic solution.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of alcohol, two weeks, and filtering.

DIRCA PALUSTRIS.

LEATHERWOOD. MOOSEWOOD.

A shrub about five feet high when full grown, and native in the United States and Canadas. The flowers are small, yellow, funnel-shaped and appear in the spring before the leaves. The fruit is a red, oval berry. The plant possesses fibres of such toughness and strength that ropes, baskets, etc., are made from the bark.

Part used.—The inner bark of the branches.

Form of preparation.—Tincture, by macerating one part in five of alcohol, two weeks and filtering.

DOLICHOS PRURIENS.

COW ITCH. COWHAGE. MUCUNA PRURIENS.

A native of tropical America, this plant is found twining itself around the trunks of trees, and often attaining a considerable height. The flowers resemble those of the pea vine, are red or purplish in color, generally grouped in threes, and hang in pendant spikes a foot in length. The fruit is a pod, shaped like the letter f, about four inches long, and covered with brown, bristly hairs, that penetrate the skin and cause a tormenting itching.

Part used.— The whole pod.

Form of preparation.—Tincture made by macerating one part of the pod in five of dilute alcohol, two weeks, and filtering. May be used in trituration.

DORYPHORA DECEM-LINEATA.

COLORADO BEETLE.

The Colorado beetle, best known as the potato bug, is of the same

family as the cantharis, and possesses the same vesicating power. Its home is among the foot hills of the rocky mountains, where it is sustained by a species of solanum growing in that locality. It attacks the other solaniacæa (the potato, tomato,) and commits widespread devastation.

DROSERA ROTUNDIFOLIA.

RED-ROT. MOOR GRASS. ROUND-LEAVED SUNDEW.

Mossy, turfy bogs, and the muddy shores of ponds and rivers is the soil this plant prefers, and middle and southern Europe, South America and northern Asia are the localities where it abounds. Grows wild about Hoboken, New Jersey. The radical leaves form a disk, in the center of which the stem rises to a height of three to six inches. This is crowned with a cluster of drooping white flowers that open for a few moments at noon each day. The leaves are studded with reddish, glandular hairs, each tipped with a drop of limpid mucilaginous fluid that glistens in the sun, like dew.

Part used.—The entire plant.

Form of preparation.— Tincture, made by expressing the juice from the entire plant, then adding an equal part of alcohol. Deep reddish-brown color, little taste.

DULCAMARA.

BITTERSWEET. FELON WOOD.

The woody nightshade, as it is sometimes called, is not to be confounded with the deadly nightshade (atropa belladonna). It is a climbing plant, growing both in Europe and this country, along the borders of streams on moist ground, ditches and sheltered places. The stem is slender, round, branching and woody, and often attains a height of several feet. The leaves are soft, smooth, and of a dull green color. The flowers are small and purplish, with long, lemon-colored anthers arranged in a cone. The fruit is a scarlet, oval berry.

Active principles.— Dulcamarin, solania, picroglycion.

Part used.—The leaves and stems above the woody portion, gathered in early autumn.

Form of preparation.— Tincture, made by expressing the juice from the leaves and stems above the woody portion, then adding an equal part of alcohol. Or by macerating one part in two of alcohol, two weeks. Filter. Dark brownish-green color, bitter-sweet taste.

ELAPS CORALLINUS.

THE CORAL SNAKE.

This snake is found in the forests along the coast of Brazil, and in color it is more brilliant than any other Brazilian serpent. The head

is small, black, covered with polygonal scales, swells behind, and is continuous with the neck, from which it is scarcely distinguished as regards size. The eyes are small and round; the jaws, slightly dilatable are furnished with sharp teeth, accompanied with fangs resting on the venom glands. The body is about two and one-half feet long, round, large in proportion to the head, and covered with smooth, rhomboidal scales. It is marked with alternating rings of vermillion, black and greenish-white.

Part used.— The venom.

Form of preparation.— Trituration of the venom with sugar of milk in the proportion of one to ninety-nine.

ELATERIUM.

MOMORDICA ELATERIUM. SQUIRTING CUCUMBER.

This plant has s large, fleshy root, giving off a number of thick, round stems that trail upon the ground like the common cucumber vine. The flowers are yellow and the oval fruit is about an inch and a half long, an inch in thickness, and of a greenish or grayish color. When entirely ripe detaches itself from the vine and forcibly ejects the seeds and juice from the opening in the base, where it was attached to the stem. The juice is procured by slicing the fruit and pressing it out on a fine sieve. It is then allowed to stand for several days, during which time a sediment is deposited. This is separated from the liquid and dried. It is then a light, friable substance, having a yellowish-white or greenish-gray color.

Active principle.— Elaterin.

Part used.— The immature fruit. The inspissated precipitate.

Forms of preparation.— Tincture made by expressing the juice from the nearly ripe fruit, then adding an equal part of alcohol. Maceration in two parts of alcohol two weeks, and filtering.

ELÆSIS GUINEENSIS.

A WEST INDIAN AND AFRICAN PALM TREE.

Part used.— The entire fruit.

Form of preparation.— Trituration.

EPIGÆA REPENS.

TRAILING ARBUTUS.

A prostrate, creeping evergreen, most frequently found in pine woods, on sandy soil, and seeming to prefer a northern exposure. It is one of the first plants to flower in the spring, sometimes before all the snow has disappeared. The stem is trailing, woody, bristling with rusty hairs, and gives off alternate, heart-shaped leaves. The flowers

are small, rose-colored, very fragrant, and disposed in clusters in the axils of the leaves.

Active principles.— Arbutin, analogue to the glucoside of hydrokinone (arcturin).

Part used.— The root and leaves.

Form of preparation.— Tincture, made by macerating one part of the fresh root or leaves in two of alcohol, two weeks, and filtering.

EPILOBIUM PALUSTRIS.

MARSH EPILOBIUM.

A plant growing from Pennsylvania to Arctic America.

Part used.— The root.

Form of preparation.— Tincture.

EQUISETUM HYEMALE.

SCOURING RUSH. HORSETAIL.

A cryptogamous plant, found in great abundance in the northern states of this country, where it is seen growing in wet, shady grounds and along the course of small streams. The rough stems contain a large proportion of silex and from its domestic uses has sprung the popular name.

Active principles.— Silica, and vegetable silicates. Equisetic acid (isomerics — aconitic acid, achilleic acid, citridic acid, malic acid, fumaric acid).

Part used.— The entire plant.

Form of preparation.— Tincture, made by macerating one part of the entire plant in two of dilute alcohol, two weeks, and filtering.

ERGOTINUM.

ERGOTIN. THE ALKALOID OF SECALE CORNUTUM.

This is obtained from the liquid remaining after the precipitation of ecbolia with bichloride of mercury. This liquid is filtered and treated with phosphomolybdic acid, the resulting precipitate being washed with water. Mixed with water, to which carbonate of barium is added in excess, it is allowed to stand until the yellow solution becomes white. It is then evaporated to crystallization. Insoluble in water, soluble in alcohol. See Secale.

Form of preparation.—Trituration. May be transferred to dilution in alcohol at any attenuation, and in water after the third.

ERIGERON CANADENSE.

CANADA FLEABANE.

This annual plant varies from two to six feet high; is covered with

stiff hairs and divides into many branches. The flowers are small, numerous, white with yellow disks, and are very inferior in appearance. It is frequently met with in fields, meadows, glades and commons, and is a most troublesome weed to the farmer.

Active principle.— Pungent, volatile oil.

Part used.— The entire plant.

Form of preparation.— Tincture, made by macerating one part of the entire plant in two of alcohol, two weeks, and filtering.

ERIODYCTION CALIFORNICUM.

YERBA SANTA.

Part used.—The whole plant.

Form of preparation.—Tincture.

ERYNGIUM AQUATICUM.

BUTTON SNAKEROOT.

This plant enjoys a certain reputation as an antidote for the bite of venomous snakes, and is found mostly on the low prairies of Illinois and Iowa, and in low, wet situations, as far south as Virginia. It varies in height from three to six feet, with leaves lanceolated above, sword-shaped below, one or two feet long, an inch in breadth, and furnished with bristling spines at intervals along the margin. The flowers are inconspicuous, white, and in round heads.

Part used.— The root.

Form of preparation.— Tincture, made by macerating one part of the root in two of dilute alcohol, two weeks, and filtering.

ERYNGIUM MARITIMUM.

SEA HOLLY.

Part used.— The whole plant, including roots.

Forms of preparation.— Tincture, as with E. aquaticum.

ETHER SULPHURICUM.

ETHER. SULPHURIC ETHER. OXIDE OF ETHYL.

$C_4 H_{10}O$.

A volatile, inflammable, substitution product, the result of the action of sulphuric acid upon alcohol and water. These are mixed together in a retort, and distilled. The alcohol is dehydrated, ethyl taking the place of alcohol. There is no sulphuric acid in its composition. The vapor passes into the ordinary receiver, where it collects as a light, colorless liquid. It is afterwards agitated with an aqueous solution of potassa, and redistilled. Ether when perfectly pure is a limpid, transparent, volatile fluid, boils at a temperature of 98°F.,

does not freeze at 116°F., below zero, and undergoes chemical changes with age. The term, sulphuric ether, simply denotes the acid used in its preparation, and not that it is contained in it.

Form of preparation.—1. Inhalation. 2. Alcohol will dissolve ten per cent at 82-3 specific gravity. (Schiff). Miscible in all proportions (Thilorier).

ETHER NITRITUM.

SWEET SPIRITS OF NITRE. NITROUS ETHER. ETHYL NITRITE.

$C_2 H_5 O, NO_2 + C_2 H_5 NO_2$.

This is a mixture of nitric ether with nitrous ether. Prepared by distilling nitric acid, alcohol, and sulphuric acid in the presence of copper (wire). It becomes acid with age, and the pressure of nitrous acid contained in it is sometimes so great as to burst the bottle. Pure nitrous ether can be prepared by the action of nitrous acid directly upon alcohol. It is isomeric with glycocoll.

Form of preparation.—Solution in alcohol in all proportions, and therefore dilutions in the usual manner. Water may be used after the second decimal.

ETHYL NITRICUM.

NITRIC ETHER.

$C_2 H_5 O_2 , NO_2$.

This substance is not to be confounded with nitrous ether, or sweet spirits of nitre. It is prepared by heating nitric acid and alcohol together in a retort, in course of which a portion of the alcohol is oxidized, and the nitric reduced to nitrous acid, This is decomposed as fast as it forms by the addition of urea, the alcohol and nitric acid uniting to form a gaseous body, having a sweet taste and odor. The vapor is apt to explode if too strongly heated.

Form of administration.— Inhalation.

EUCALYPTUS GLOBULUS.

AUSTRALIAN GUM TREE. FEVER TREE.

A native of Australia and Tasmania, this is one of the largest trees known, sometimes attaining a height of 200, 300, or even 350 feet, with a diameter of fifteen feet or more. The bark is ash-colored and smooth, the leaves a foot long, are spear shaped, curved like a scythe blade, have a thick, leathery texture, and vary according to age from a greenish-white to a bluish-green color. The flowers are white, sometimes single, sometimes clustering. The tree is of very rapid growth, hard and resinous. A number of these trees planted in low, marshy situations, it is said, drains the land effectually, and overcomes malarial emanations.

Active principle.— Eucalyptol, an essential oil.

Part used.— The leaves.

Form of preparation.—Tincture, made by macerating one part of the dried leaves in five of alcohol, two weeks, and filtering.

EUGENIA JAMBOS.

This plant is a native of the Indies and tropical America, and constantly covered with flowers and fruit. The bark is a reddish brown; the flowers are large and of a dull yellow color; the fruit is roundish, and about as large as a medium sized pear. This is used as an article of food, but the four-angled seeds together with their envelope is highly poisonous. The root also possesses violent toxical properties.

Active principles.— Eugenic acid and eugenin. (?)

Part used.—The seeds.

Form of preparation.—Tincture, made by macerating one part of the fresh berries in two of alcohol, two weeks, and filtering.

EUONYMUS ATROPURPUREA.

WAHOO (of the northern states). BURNING BUSH.

Sometimes an indigenous shrub, sometimes as a small branching tree; it is to be met with in the middle and western states of this country, usually wild, but often cultivated in the flower garden. The flowers are small and dark purple; the fruit is an oblong, deeply lobed capsule or pod, occurring in great profusion, and having a bright crimson color.

Active principles. – Euonymin; several resins; organic acid and their salts.

Part used.— The bark.

Form of preparation.—Tincture, made by macerating one part of the bark in two of dilute alcohol.

EUONYMUS EUROPÆUS.

Same general features and proximate principles as E. atropurpureus.

Part used.—The seeds.

Form of preparation.—Trituration.

EUPATORIUM AROMATICUM.

DEERWORT. WHITE SNAKE ROOT.

This somewhat rare species of eupatorium is met with in low woods and wet thickets, from Massachusetts to Louisiana. It is about two feet high, and springs from a white, fibrous root. This is bitter and possesses the same odor as the flowers. These are white, and exhale a

pleasant, aromatic odor. It is said the aromatic principle is similar to that of the tonka bean.

Active principles.— Eupatorin found in E. cannabinum, other eupatoriums not analyzed. Eupatorin of commerce is an indefinite extractive.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the fresh root gathered in autumn, in two parts of alcohol, two weeks and filtering.

EUPATORIUM PERFOLIATUM.

THOROUGHWORT. BONESET.

An indigenous plant growing in all parts of North America, is most abundant on wet lands, swamps, wet meadows, borders of streams, etc. It is usually three or four feet high, and composed of a number of upright, simple stems, branching in a three forked manner above, and covered with fine, whitish hairs. Each pair of leaves are so united at the base, that they seem to constitute but one, which is perforated at the centre by the stem. The flower heads are composed of ten or twelve white flowers; the seeds are black, oblong, and prismatic, and the root is perennial, horizontal, crooked, with but few fibres.

Active principles.— See E. arom. Stronger and more evidences of eupatorin than other varieties. Bitter extractives and resins.

Part used.—The entire plant when in flower.

Form of preparation.—Tincture, made by macerating one part of the fresh plant in two parts of alcohol, two weeks, and filtering.

EUPATORIUM PURPUREUM.

GRAVEL ROOT. QUEEN OF THE MEADOW.

A perennial indigenous plant having a solid, pointed, green, sometimes purplish stem with inch broad, purple bands at the points. The leaves are in whorls of 3s, 4s and 5s, rarely in 2s; they are quite thin and measure 8-12 inches long by 3-4 in breadth. The flowers are tubular, and purple, ranging to whitish. The root is long, knotty, whitish or brownish, with numerous fibres, and possesses a bitter taste. It grows in swampy and other low grounds, from Canada to Virginia.

Active principles.— See A. aromaticum.

Part used.— The fresh root gathered in autumn.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of alcohol, two weeks, and filtering.

EUPHORBIA COROLLATA.

FLOWERING SPURGE.

This plant has a large branching root, and numerous straight stems, varying in height from two to five feet. It occurs in this country from Canada to Florida, being most abundant in western Pennsylvania, Virginia and Maryland, and is usually found in a dry, sandy, barren soil. The stems and branches contain a milky fluid; the flowers are large, white, and disposed in large terminal umbels; the fruit is a smooth capsule, three celled and three seeded. The full grown root is about two feet long, and an inch in thickness.

Active principles.—Euphorbic acid and its salts. Euphorbin, and (probably) oleum euphorbium.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of alcohol, one week, and filtering.

EUPHORBIA AMYGDALOIDES.

SPURGE.

Part used.—The whole plant.

Form of preparation.—Tincture, by macerating in two parts of alcohol, one week, and filtering.

EUPHORBIA CYPARISSIAS.

CYPRESS SPURGE.

Part used.—The whole plant.

Form of preparation.—Tincture as in euphorbia amygdaloides.

EUPHORBIA HYPERICIFOLIA.

MILK PARSLEY.

This indigenous plant is slender, branching, usually found in dry rich soils, and varies from one to two feet high. The leaves, when torn, exude a milky fluid, having a sweetish, astringent taste. The flower is small and white.

Part used.—The entire plant.

Form of preparation.—Tincture same as amygdaloides.

EUPHORBIUM.

EUPHORBIUM OFFICINARUM. GUM EUPHORBIUM.

A resin obtained from euphorbiæ growing in Africa, southern Asia, and the Indies, particularly at the Cape of Good Hope, and the Atlas mountains. The Canary islands also afford it. It appears much like the cacti, having leaflets pointed, angular stems, with branches beset

with prickly hairs. If wounded, a white, milky juice is exuded, hardening in round, tear-like masses about the size of a pea, with a light yellow color, and often perforated with one or two holes caused by the juice concreting around one or more of the prickles, the latter sometimes remaining in the tears. It is inflammable, burning with a brilliant flame, at the same time exhaling a fragrant odor. When powdering this gum, a fine, very irritating dust arises, which has caused transient poisoning.

Form of preparation.—Tincture, made by saturated solution in alcohol. Water may be used after third decimal. Brownish yellow color, burning taste.

EUPHRASIA OFFICINALIS.

EYEBRIGHT.

A small plant inhabiting Europe and this country, usually met with on the mountain meadows. It is but a few inches in height, with a downy stem, and hairy root. The leaves are wrinkled, thick and smooth; the flowers are white, solitary, streaked with purple, and grow on a leafy spike in the axils of the leaves, and at the tops of the branches.

Part used.—The whole plant.

Form of preparation.—Tincture, made by macerating one part in five of dilute alcohol, two weeks, and filtering. Dark, yellow brown color.

EUPION.

A CONSTITUENT OF WOOD TAR.

The empyreumatic oil obtained during the destructive distillation of pine wood, when allowed to stand, separates into two layers, a lighter and a heavier portion. The former contains eupion. It is also a mixture of oils obtained by distilling rich coals at low temperatures. The lightest liquid known.

Form of preparation.— Insoluble in water. Soluble in 96 per cent. alcohol.

FAGOPYRUM ESCULENTUM.

BUCKWHEAT.

This valuable grain, originally a native of Asia, is naturalized in this country, where large amounts are annually raised and converted into flour. It stands two or three feet in height, with leaves one to three inches long; the flowers, white, numerous and terminal, are great favorites with the honey bee; the fruit is shaped somewhat like a small, dark beech nut.

Part used.— The entire mature plant, when flowering.

Form of preparation.—Tincture, made by macerating one part in two of dilute alcohol, one week, and filtering.

FAGUS SYLVATICA.

THE BEECH.

A common forest tree, growing in the New England and some western states, and the Canadas. It has a tall, straight trunk rising fifty or eighty feet, but of lesser height and more spreading in open situations. The bark is light gray, approaching to white; the leaves, four to six inches long, often remain on the tree through the winter. The nuts are small and contained in a four-lobed burr.

Active principles.—The alkaloid fagin. Soluble in water or alcohol. 1000 drops of alcohol dissolve four drops of beech-oil.

Part used.—The nuts.

Form of preparation.—Trituration of the nuts. Tincture, by macerating one week in five parts dilute alcohol, and filtering; expressing the residue and adding to filtrate.

FEL TAURI.

OX GALL.

This is the biliary secretion contained in the gall bladder of the ox. It is viscid, green or greenish-yellow in color, and very bitter to the taste. It contains bilin, cholesterin, olein, margarin, stearin, glycocholic and taurocholic acids; cholepyrin which is the coloring principle, capable of being decomposed into biliverdin, a green coloring matter, and bilifulvin a yellow coloring matter; extractive matters and salts.

Form of preparation.—Trituration made by rubbing two parts of ox gall with ninety-eight of sugar of milk. Succeeding potencies are triturated in the usual proportions.

FERRUM.

IRON.

Fe.

As an ore, this metal exists in many parts of the world, but more especially in northern latitudes. In this country, Pennsylvania, northern Michigan, upper New Jersey, New York, and a portion of Missouri afford large quantities. England, France, Germany, Spain and Sweden contain large deposits. The oxide gives a reddish tint to rocks and clays, and it is one of the constituents of mineral (chalybeate) springs. It is a constituent of proximate principles both in the animal and vegetable kingdoms, and chiefly composes meteorites. Pure iron is a white, tough, fibrous, exceedingly tenacious metal. This is prepared

by manufacturing chemists from an iron oxide salt, and is an article of commerce. Iron may also be reduced by triturating fine iron filings in honey, subsequently washing on filter with water and alcohol, drying, and reducing by either scale in sugar of milk.

Form of preparation.—Trituration of ferrum redactum (p. 136), or iron filings, as stated above.

FERRUM ACETICUM.

FERRIC ACETATE. ACETATE OF IRON.

$Fe_3C_2H_3O_2$

This salt is made by dissolving moist peroxide of iron in acetic acid and concentrating the solution to the consistence of jelly or evaporating to dryness. Brown, uncrystallizable, very astringent.

Form of preparation.—Soluble in water or alcohol. Saturated solution in water for tincture.

FERRUM ARSENIATUM.

ARSENIATE OF IRON.

$Fe_3\,2AsO_4$

To prepare this form of iron, the arseniate and acetate of soda are dissolved in hot water, to which an aqueous solution of sulphate of iron is added. The white precipitate that falls is the arseniate of iron, sulphate of soda remaining in solution. The precipitate is washed on a filter, subjected to strong pressure on a screw press, and dried at a temperature of not more than 100° F. Although white when freshly prepared, it soon changes to a green. It is insoluble in water, and possesses neither smell nor taste.

Form of preparation.—Trituration ; may be transferred to dilutions after the fifth decimal.

FERRUM CARBONICUM.

FERROUS CARBONATE. CARBONATE OF IRON.

$Fe''CO_3$

This is sometimes found in nature, as spathose iron ore, or iron spar, and occurs in connection with the carbonates of lime or magnesia. The clay iron stone, from which nearly all English iron is made, is composed of this substance. It is one of the components of iron or chalybeate springs and shows itself by the rusty margin of these, where it has been deposited by spontaneous evaporation. Artificially it is formed by the reaction of sulphate of iron (Fe''· Copperas —Ferr*ous* sulph.) and carbonate of sodium upon each other, with the addition of refined sugar to the precipitate to prevent oxidation of the salt.

Form of preparation.—Trituration. May be transferred to dilutions after fifth decimal.

FERRUM IODIDUM.

BINIODIDE OF IRON. FERROUS IODIDE.

FeI_2

A ferrous salt made by digesting iodine in a flask with water and metallic iron, the heat gradually raised until a white froth forms, and the liquid strained through a muslin filter. This is still further concentrated, until it is of sufficient consistency to solidify on cooling, when it assumes the crystalline form. It is greenish-black in color and very deliquescent. Soluble in water when fresh, slowly decomposing.

Form of preparation.—Trituration of the recent crystals. Tincture, saturated solution in water, with two parts (to one of FeI_2) of sugar, to preserve it from decomposition.

FERRUM LACTICUM.

FERROUS LACTATE. LACTATE OF IRON.

$Fe_2, 2C_3\ H_5\ O_3, 2H_2\ O$

In order to prepare this salt, lactic acid is dissolved in distilled water to which iron filings are added. The mixture is allowed to digest upon a water bath until all chemical action has ceased, and then filtered. Crystals are deposited in the filtrate, which in forty-eight hours are filtered out and dried. It is in the form of greenish-white crusts or granular powder, slightly soluble in water and alcohol.

Form of preparation.—Trituration. May be transferred to water after second decimal.

FERRUM MAGNETICUM.

BLACK OXIDE OF IRON. LOADSTONE.

A native ore having the property of attracting to itself various articles of iron, imparting to them the same quality and is an iron of the lowest degree of oxidation. The artificial magnet receives its power frequently from contact with this substance. This is formed chemically by dissolving sulphate of iron in water and mixing with it solutions of persulphate of iron and sulphate of soda. These are boiled together; and on cooling, the precipitate falls, which is collected on a muslin filter, drained, washed and dried at a temperature under 120° F.

Form of preparation.—Trituration. May be transferred to dilution after the fifth decimal.

FERRUM MURIATICUM.

FERROUS CHLORIDE. DI-CHLORIDE OF IRON.

$FeCl_2 + 4OH_2$

Made by dissolving metallic iron in hydrochloric acid and evaporat-

ing to form crystals; these are green, deliquescent, very soluble, and slowly oxidize on exposure to the atmosphere. Keep well corked in dark bottles.

Form of preparation.--Tincture, solution in ten parts of alcohol.

FERRUM PHOSPHORICUM.

PHOSPHATE OF IRON.

$FeHPO_4$

A slaty-blue powder, prepared by dissolving sulphate of iron and phosphate of sodium separately in water, and then mixing the solutions. The precipitate thrown down is phosphate of iron. Filter, wash with hot water and dry.

Form of preparation.—Trituration. May be transferred to dilutions after the third decimal.

FERRUM PEROXIDUM HUMIDUM.

MOIST HYDRATED OXIDE OF IRON.

$FeO_3\ H_2\ O + aq.$

To obtain this salt, a solution of persulphate of iron is added to a solution of carbonate of soda as long as a precipitate falls. This is separated from the water upon a filter, and enclosed in tightly stoppered bottles. It is a moist, pasty mass, of a brownish-red color. Ferrum peroxidum (dry) is used for trituration. The humid is an antidote for arsenical poisoning.

FERRUM PYROPHOSPHORICUM.

PYROPHOSPHATE OF IRON.

$2Fe_2\ O_3, 3PO_5 + 9HO$

The preparation of this salt is accomplished by the admixture of phosphate of iron and aqua ammonia, with the addition of citric acid, thus forming a citro-ammoniacal phosphate. It is reduced by heat to a syrupy consistence, and spread on plates of glass or porcelain, where it dries in scales, having an apple-green color. These are readily soluble in water, and have an acidulous, saline taste.

Form of preparation.—Tincture, a saturated solution in water.

FERRUM REDACTUM.

REDUCED IRON. IRON BY HYDROGEN.

In order to procure this, subcarbonate of iron is placed upon a sheet iron tray, which is then rolled into an incomplete cylinder and placed in a wrought iron reduction tube. This latter is exposed to the heat of a charcoal furnace until it becomes a dull red. At the same time a constant stream of hydrogen gas is made to pass through the tube fo a certain time, when the fire is removed and the whole allowed to

cool, continuing a moderate current of the hydrogen. It is a fine, grayish-black, lustreless powder, capable of forming a scale when struck by a hammer on an anvil, and strongly attracted by the magnet. If black, it should be rejected, as it is not fully deoxidized.

Form of preparation.—Trituration.

FERRUM SULPHURICUM.

COPPERAS. SULPHATE OF IRON. GREEN VITRIOL.

$SO_3\ Fe''O,\ 7H_2O$

This is procured by dissolving metallic iron in dilute sulphuric acid, heating and filtering the mixture. The liquid thus obtained is heated in a mattrass until sufficiently concentrated, and then set aside in a covered vessel to crystallize. It is made on a large scale by exposing iron pyrites to the action of the atmosphere, when it absorbs oxygen and is converted into this salt. It is then dissolved in water and crystallized. Sulphate of iron is in the form of large, pale, blue-green crystals that are covered with a yellowish efflorescence on exposure to the air. Its watery solution is used for disinfecting slaughter houses, cellars, etc., and mixed with hydrated lime, it neutralizes the sulphuretted hydrogen of privy vaults and wells.

Form of preparation.—Trituration. May be transferred to dilution in water at any attenuation; to alcohol after the fifth decimal.

FERULA GLAUCA.

BOUNAFA.

Part used.—The whole plant.

Form of preparation.—Tincture by maceration in five parts of alcohol, two weeks. Filter.

FILIX MAS.

MALE FERN.

This fern grows in Europe, Asia and northern Africa, and is also common in Great Britain. In this country a species grows in the pine forests of the middle states, but its identity is still in doubt. The plant arises by numerous radical leaves, called fronds, attaining a height of about four feet. The leaflets or pinnæ, situated at certain distances below approach nearer and nearer as they ascend, and terminate with a single one; the leaflets are oval, deeply lobed, and diminish in size from the base to the apex, have crenate edges and are of a bright, green color. The fruit is in the form of small dots on the under side of each lobe. The root is round, ten or twelve inches long, and one or two inches thick, covered with the remains of overlapping leaf stalks, and is of a yellowish-green color. The dried root deteriorates with age and in time becomes inert.

Part used.—The fresh root.

Form of preparation.—Tincture made by macerating the fresh root gathered in July and August, in two parts of alcohol, two weeks, and filtering. Dark brown.

FLUORICUM ACIDUM.

(See Hydrofluoric acid).

FŒNICULUM VULGARA.

FENNEL.

Considerable diversity exists as to the species from which the seeds of this plant are obtained. The F. vulgare is found in various parts of Europe, on sandy, chalky soil; the F. officinale, more aromatic than the last, is obtained from southern Europe; the F. dulce is a native of Portugal and Italy. A variety is grown in this country. The great bulk supplied to the drug market of this country, comes from Germany. The seeds are plane upon one side, straight or slightly convex on the other, gray-green in color, and possess an aromatic, fragrant odor, and a warm, sweet, aromatic taste.

Part used.—The seeds.

Form of preparation.—Tincture, made by macerating one part of the seeds in five of alcohol, two weeks. Filter.

FORMICUM ACIDUM.

FORMIC ACID.

$C H_2 O_2$

This acid was discovered, first in the common red ant, but it is now obtained, (1). By the slow oxidation of methyl alcohol or formic aldehyde in the presence of platinum black. (2). By the distillation of dry oxalic acid with sand, pumice stone or glycerine. (3). The oxidation of sugar, starch, or gum. (4). A mixture of peroxide of manganese, dilute sulphuric acid and water, cautiously distilled. This acid is a fuming, colorless liquid, having a strong odor and crystallizes on being cooled to zero. It is very inflammable, burns with a blue flame, and if applied to the skin, produces a blister or ulcer. It is soluble in water and alcohol.

Form of preparation.—Dilutions in water or alcohol.

FORMICA RUFA.

THE RED ANT.

These insects live in colonies and are divided into three classes, males, females and neuters; the two former are provided with wings the latter have none. At a certain period of development the two sexes abandon their home and hover in the air, where they couple.

The males die shortly after this and the females, returning to the hills, lay their eggs. These are cared for by the neuters, who constitute the greater bulk of the community. The females and neuters are furnished with two glands, situated at the posterior portion of the abdomen, which secrete a highly irritating, acrid fluid, known as formic acid.

Part used.—The entire living insect.

Form of preparation.— Tincture, made by macerating ten parts of the entire living insect in twenty of alcohol and ten of water, and distilling twenty parts from this.

FRAGRARIA VESCA.

THE STRAWBERRY.

In its native state this plant is to be seen in woods, meadows, fields, and hill sides, both in England and America. The plant is but a few inches high, with a rounded, downy stem; the flowers are white and inodorous; the fruit is a red, heart-shaped berry, dotted externally with the seeds. The plant is extensively cultivated for the fruit it affords.

Part used.— The ripe fruit.

Form of preparation.— Tincture, made by macerating one part of the ripe fruit in two of alcohol.

FRASERA CAROLINENSIS.

AMERICAN COLUMBO.

An indigenous, showy plant, common to the western states, particularly Missouri, Arkansas, Ohio, and Michigan. It is generally met with in rich woodlands and on moist soils, and varies from five to nine feet high, with a diameter of one or two inches. The leaves are oblong, three to twelve inches long, and arranged in whorls of fours, fives or sixes; the radical leaves are about a foot long, and lie prostrate. The flowers are yellowish-white or greenish-yellow, dotted with blue or purple; and disposed in terminal pyramids, varying from one to five feet long; the seeds, eight to twelve in number, are contained in a two-celled capsule. In the first two years the radical leaves only are grown, but in the third year the stem and flowers are produced, and it is only at this time the root should be gathered. This bears some resemblance to columbo, and has a bitter-sweetish taste.

Active principles.— Extractives, lignin, pectin, etc. The entire absence of berberina indicates that it is not a columbo.

Part used.— The root.

Form of preparation.— Tincture, made by macerating one part of the two or three-year old root in five of alcohol for two weeks, and filtering. Trituration of the dried root.

FRAXINUS AMERICANUS.

WHITE ASH.

The white ash is a tree of splended proportions, and of frequent occurrence in the forests of the northern states and Canada. The trunk is straight, and rises without a branch to a height of forty feet or more, expanding into a large and graceful summit, with leaves a foot or more in length.

Part used.—The bark.

Form of preparation.—Tincture, made by macerating one part of the bark in five of alcohol, two weeks and filtering.

FUCUS VESICULOSUS.

SEA WRACK. SEA KELP.

Much used along the coasts of England and Europe, for production of iodine, but other crytogams contain a much larger proportion. Its charcoal has been much used, under the name of "vegetable ethiops," as a medicine.

Part used.—The dried plant.

Form of preparation.—Tincture, maceration of one part to five of dilute alcohol, two weeks; filter. Trituration.

GADUS MORRHUÆ.

THE COD.

Part used.—The first cervical vertebræ.

Form of preparation.—Trituration.

GALIUM APARINUM.

CLEAVERS. GOOSE GRASS.

A trailing plant, common in this country and Europe, and growing in uncultivated soils, moist thickets, along fences, the banks of rivers, etc. The stems are several feet long, and closely embrace other plants by means of hooked prickles, with which their surface is covered. The leaves are arranged in whorls of eight; the flowers are small, white, lateral and numerous; the fruit is large and armed with hooked prickles. The root consists of reddish, creeping, hair-like fibres, dyeing a beautiful madder-red. The bones of animals that feed on this plant are said to be colored red after a time.

Active principles.—Galitannic acid, "rubichloric" acid.

Part used.—The whole plant.

Form of preparation.—Tincture, by adding equal part of alcohol to expressed juice, or by macerating one part in five of alcohol for two weeks, and filtering; or infusion, by percolation in same proportion.

Tincture trituration, of equal quantities (by weight) of expressed juice and sugar of milk.

GALLICUM ACIDUM.

GALLIC ACID.

$C_7 H_6 O_4$

A vegetable acid, existing in many plants as the sumac, green and black teas, hellebore root, acorns, and many astringent plants. It is mostly obtained from nut galls. These are excrescences formed upon the boughs and young shoots of a species of oak, a certain insect piercing these and depositing an egg in the wound. From the irritation thus produced a tumor is formed, growing in size as does the contained larva. When the larva has come to maturity it eats its way out. The galls are only efficient before the egg is hatched, and are then of a blackish, greenish color, about the size of a large pea or a small cherry, and are chiefly imported from Syria and Asia minor. The acid is obtained by allowing the powdered galls to macerate in a pasty mass several weeks. Express, and reject liquor. Boil mass in four times its weight of water. Filter. Pass filtrate through animal charcoal to purify; set aside to crystallize; decant, dry on bibulous paper. It readily oxidizes and becomes tannic acid, and with the latter forms gallitannic acid. It precipitates certain metals from solutions.

Form of preparation.—Trituration. Saturated solution in alcohol for tincture.

GAMBOGIA.

GUMMI GUTTÆ. GAMBOGE.

This substance is often referred to in Homœopathic literature as gummi guttæ, a term of no value whatever, since it fails to particularize any gum or resin, and should therefore be discarded. Gamboge is collected from a tree growing in Siam and Cochin China, and is obtained by breaking the young shoots from which a juice exudes in drops. It is received in vessels where it solidifies. Sometimes it is collected in hollowed bamboo cane, giving the resin a cylindrical, form. The resin is of an orange or orange-red color, very brittle, breaking with a smooth, shining fracture, yellow when powdered, forms an emulsion with water and a yellow tincture with alcohol, The roll is considered to be most free from adulteration.

Forms of preparation.—Tincture, made by dissolving one part of the resin in five of alcohol, and filtering.

GAULTHERIA PROCUMBENS.

DEERBERRY. PARTRIDGE BERRY. WINTERGREEN.

A small, indigenous, evergreen shrub, about five or six inches high

growing in barren, sandy soils, from Canada to Georgia. It is quite abundant in the "pine barrens" of New Jersey. The root is horizontal, creeping, and sends up a number of stems. The leaves have a spicy, fragrant odor and an astringent taste; the flowers are white; the fruit consists of a scarlet berry, having an aromatic, sweetish taste.

Active principles.— Gaultheric acid (methylsalicylic acid. Gaultherelene).

Part used.— The leaves.

Form of preparation.— Tincture, made by macerating one part in five of alcohol, two weeks, and filtering.

GELSEMIUM SEMPERVIRENS.

YELLOW JESSAMINE. FIELD JESSAMINE. BIGNONIA SEMPERVIRENS.

This is a climbing plant, native in the southern states, where it luxuriates in rich soils from Virginia to Florida. The stem is twining, smooth and shining, ascending the highest trees and festooning these in an exceedingly graceful manner; the leaves are long and lanceolate and the yellow flowers yield a delightful perfume. The fruit is a black berry. The root, woody in texture, is several feet long and varies in diameter from a quarter of an inch to two inches. Sometimes it is seen farther north, where it is cultivated as an exotic. It is now frequently called gelseminum.

Active principles.— Gelsemic or gelseminic acid. Gelsemia or gelsemine. The latter is a strong base, forming numerous salts.

Part used.— The bark of the root.

Form of preparation.— Tincture, made by macerating one part of the bark of the root in two parts of alcohol for two weeks, and filtering.

GENISTA TINCTORIA.

DYER'S GREENWEED. GREENWEED.

Part used.— The whole plant.

Form of preparation. — Tincture.

GENTIANA CRUCIATA.

CROSSWORT.

Part used.— The root.

Form of preparation.— Tincture, by macerating one part in five of alcohol, two weeks, and filtering. Light, yellowish-brown color, bitter taste.

GENTIANA LUTEA.

YELLOW GENTIAN.

This is the largest and handsomest of this genus, a native of mountainous Europe, growing among the Apennines, Alps, and Pyrenees. It is also to be found in hilly situations in New York and other northern states. The plant stands about four feet high, bearing large, yellow flowers, placed in whorls at the axils of the upper leaves; the root is thick, long and branching, contains glucose, and when macerated in water undergoes the vinous fermentation. A spirituous liquor drank in Switzerland and the Tyrol, is obtained from the fermented infusion by distillation.

Active principles,—Gentianin. Olea gentiana. Gentianic acid. Extractives.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of strong alcohol, two weeks, and filtering. Yellow-brown, very bitter.

GERANIUM MACULATUM.

WILD CRANESBILL.

An indigenous plant, met with in all parts of this country, generally in low, moist, sheltered localities. The stems are from one to two feet high, grayish-green in color, covered with hairs, and purple in color; the root, fleshy, horizontal and perennial, is furnished with numerous short fibres. The leaves are deeply divided into three, five or seven lobes, hairy, pale green in color and mottled with paler spots.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of alcohol, two weeks, and filtering.

GEUM RIVALE.

PURPLE AVENS. WATER AVENS.

This plant delights in wet, boggy soils in Europe, and this country where it is found from Canada to Pennsylvania. The stems are about a foot and a half high and purple in color. The flowers are drooping, solitary, and purple. The root is jointed, horizontal, scaly, tapering and reddish-brown, usually about six inches long.

Part used.—The plant when in flower.

Form of preparation.—Tincture, made by macerating one part of the fresh plant in two of dilute alcohol, one week, and filtering.

GINSENG.

GINSING.

This is a plant growing in hilly, wooded sections of the middle and

western states. It is about a foot high, divided at the summit into three leaf stalks each of which has five or more leaflets; the flowers are small, greenish, and the fruit is a scarlet, kidney-shaped berry. The fleshy root is spindle-shaped, one or two inches long, has a sweet somewhat aromatic taste, little odor, and frequently divided in such a manner that it bears a fancied resemblance to the human figure. Immense quantities of the root are annually exported to China where the most extravagant praises are accorded it.

Part used.—The root.

Form of preparation.—Trituration of the dried root. Tincture made by macerating one part of the dried root in five of alcohol, two weeks, and filtering. Straw-yellow color, slightly bitter taste.

GLONOINE.

NITRO GLYCERINE.

This substance is prepared by the action of a mixture of nitric and sulphuric acids upon glycerine. It is a heavy, oily, yellowish substance without odor, and has a sweet, pungent taste. It is exceedingly explosive, the least jar or blow being sufficient to cause its destructive effects, and is therefore employed to rend the stone in mining, quarrying, excavating, etc. Upon continued exposure to a temperature of 46⅔ F., it assumes the form of long needle-like crystals, that explode violently when broken. It has been ascertained that one measure of this substance explodes into 10,384 measures of gas.

Form of preparation.—Dilutions with alcohol.

GNAPHALIUM POLYCEPHALUM.

LIFE EVERLASTING.

A plant indigenous to Canada and this country, growing in old fields and sterile soils. It is herbaceous and from one to two feet high; the flowers are yellow and tubular.

Part used.—1. The whole plant (recent). 2. The leaves and flowers of the dried plant.

Form of preparation.—Tincture, made by macerating one part of the fresh plant in two of alcohol, two weeks, and filtering. Trituration of the leaves and flowers of the dried plant.

GOSSYPIUM HERBACEUM.

THE COTTON PLANT.

Cotton fibre is used in medicine for the preparation of gun cotton (pyroxalin), and hence, collodion.

Part used for tincture.—The root.

Form of preparation.— Tincture, made by macerating one part of the root in two of alcohol.

GRANATUM PUNICA.

POMEGRANITE.

A small, shrubby tree occasionally reaching the height of twenty feet, and growing wild along the shores of the Mediterranean, Arabia, Persia, China and Japan. The branches are quite irregular and armed with thorns. The flowers, employed in ancient times for dyeing, are large and of a rich scarlet color. The fruit is a round, yellow berry, about the size of an orange, and consists of a horny rind and a reddish, sweetish pulp, containing a number of oblong, angular seeds. The root is hard, knotty, fibrous, covered with an ash-gray bark; yellow on its internal surface, astringent without bitterness and without odor. It is imported in the shape of quills. Punicin is said to be its active principle.

Part used.— The bark of the root.

Form of preparation.—Trituration. Tincture, by macerating in five parts of alcohol for two weeks, and filtering.

GRAPHITES.

PLUMBAGO.

This is a pure mineral carbon, sometimes containing a very slight trace of iron. It is a blackish-gray, shining substance, soft and greasy to the touch, and is the material used for lead pencils. It is a mineral product of almost every country, and although of precisely the same constitution as pure charcoal, diamond, and lampblack, is possessed of distinct properties and relations. Its use in the adjunct sciences of medicine is large. Crucibles, tubes, capsules, and especially battery-plates are manufactured from it, also occasionally carbon points for electric lights. An artificial graphite is found in the scale that separates from the surface of molten cast iron.

Form of preparation.— Trituration of the finer qualities; may be transferred to dilutions after the sixth.

GRATIOLA OFFICINALIS.

HEDGE HYSSOP.

This root is met with in southern Europe, where it inhabits wet meadows and the margin of lakes, ponds, rivers, etc. The root is rampant, horizontal and white, to which numerous white hairs are attached. The flowers are single and of a reddish-white color; the seeds are numerous and oblong. When recent, the plant has a bitter, acrid taste, but no smell.

Active principles.— Gratiolin, soluble in alcohol. Gratiolosin, soluble in water. Antirrhinic acid. Oleo-resin. Volatile oil and extractives.

Part used.— The entire plant.

Form of preparation.— Tincture, made by expressing the juice from the entire plant gathered before flowering, then adding an equal part of alcohol. Also by macerating in five parts of dilute alcohol, two weeks and filtering. Express the debris; add product to the filtrate; filter again.

GUAIACUM OFFICINALE.

LIGNUM VITÆ.

A tree, forty to sixty feet in height, growing in the West Indies and along the adjacent coast of South America, but more especially in the Islands of Hayti and Jamaica. The bark is gray or ash-colored, spotted or striated, and has a resinous, greasy appearance. The flowers are in bunches of eight or ten, and of a rich blue color. The seeds are solitary, hard and oblong. A resin is obtained from it by boring a hole in the axis of a billet, placing one end in the fire and collecting the melted fluid as it flows out from the auger hole. Boiling the chips or sawdust with common salt is another method. The concrete resin is greenish-brownish in color, reddish-brown internally, leaves a pungent, acrid, after taste in the mouth, pulverizes easily, and dissolves freely in alcohol.

Active principles.— Guaiacic acid. Guaiacene (guaiacin, guajacol, guajol, pyroguaiacic acid).

Part used.— The resin.

Form of preparation.— Trituration of the resin. Tincture, made by saturated solution in dilute alcohol. Dark brown color.

GUARŒA TRICHILIOIDES.

REDWOOD OR BALLWOOD.

A large tree growing in the Antilles.

Part used.— The bark.

Form of preparation.— Tincture. Trituration.

GYMNOCLADUS CANADENSIS.

GOURGANES. GROS FEVEIER. KENTUCKY COFFEE TREE.

This tree has received its name from the fact that the seeds were used as a substitute for coffee by the early settlers of Kentucky. It rises straight and clear for twenty-five feet, and then branches into a heavy top. The compound leaves are two or three feet long and fifteen or twenty inches wide. The flowers are large and white; the fruit is a curving pod, six to ten inches long, containing several large, hard, gray seeds, imbedded in a green, gummy pulp.

Part used.— The pulp surrounding the seeds.

Form of preparation.—Tincture, made by macerating one part of the fresh pulp in two of alcohol, two weeks, and filtering.

HÆMATOXYLON CAMPECHIANUM.

LOGWOOD.

A tree growing in Campeachy, Jamaica, Mexico, and the shores of the Bay of Honduras. It is about twenty-five feet high, and averages twenty inches in diameter, with contorted branches, covered with sharp spines. The wood is dark red in color, and the bark is rough and dark. The flowers are brownish-purple at the calyx, with lemon-yellow petals, and possess an agreeable odor. The wood is exported to this country in the form of logs; these are cut into chips or rasped to a coarse powder; an infusion of these is made with water digested with alcohol, and evaporated to dark red crystals.

Active principles.—Hæmatoxylin. Brasilin, hæmatoxylic acid. Hæmatin (not from blood which is now known as hæmatosin).

Part used.—The wood

Form of preparation.—Tincture, made by macerating one part of the heart wood in five of alcohol, two weeks. Filter. Color, yellowish-brown; bitter taste.

HAMAMELIS VIRGINICA.

WINTER BLOOM. SNAPPING HAZELNUT. WITCH HAZEL. SPOTTED ALDER.

An indigenous shrub found on hilly or stony localities, and upon the borders of small water courses, and also in forests. The stems are crooked and branching, covered with a smooth, gray, spotted bark, and rise to a height of eight to ten feet. The yellow curled flowers make their appearance from September to November, while all other vegetation is declining. The leaves and twigs have a pleasant odor and a bitter taste, with a pungent, sweet after-taste. The smaller branches, according to a popular superstition, were used for "divining rods," to discover the presence of metals in the earth, or deep springs of water. Never has been thoroughly analyzed.

Part used.—The leaves and twigs.

Form of preparation.—Tincture, by macerating one part of the leaves, or bark of the root and branches, in two of alcohol, two weeks, and filtering.

HECLA LAVA.

VOLCANIC LAVA.

This is the molten substance thrown out during the eruptions of Mt. Hecla in Iceland, and consists of a variety of minerals that have

been reduced to a fluid state by volcanic fires. Analysis shows it to be composed of lime, magnesia, alumina, silica, anorthite, oxide of iron, and traces of other minerals.

Form of preparation.— Trituration.

HEDEOMA PULEGIOIDES.

AMERICAN PENNYROYAL.

This plant grows in all parts of the United States, and especially upon calcareous soils. It is from nine to fifteen inches high, branched and hairy, blossoms all summer, and has a very strong scent with a warm, mint-like taste. The flowers are small, pale blue, and arranged in whorls upon the branches. A volatile oil is obtained from it by distillation. The European pennyroyal belongs to another genus, the apulegium — (the peppermint).

Part used.— The whole plant.

Form of preparation.— Tincture, made by macerating one part of the whole plant in two of alcohol, two weeks, and filtering.

HEDYSARUM ILDEFONSIATUM.

BARBA DE BOA.

A plant growing on the precipitous sides of Mt. Willoughby, near Westmore, Vt., five hundred feet above the lake below. From this point north to Hudson's bay the plant is occasionally met with. It is about two feet high, very leafy. The flowers are large, violet purple.

Part used.— Leaves.

Form of preparation.— Tincture, made by macerating one part in five of alcohol, two weeks, and filtering.

HELIANTHUS ANNUUS.

SUNFLOWER.

Originally a native of South America, this annual has become naturalized in this country. It is cultivated in gardens, and flourishes over large areas in some of the western territories. While it grows in almost any soil, its size is increased by a rich, fertile one. Its usual height is about seven or eight feet, although it has reached ten, twelve, and even more. The stem is an inch and a half in thickness, bears large leaves, and is crowned by large, nodding, yellow flowers, composed of a single disk with divergent rays.

Part used.— The ripe seeds.

Form of preparation.— Tincture, made by macerating one part of the ripe, powdered seeds in five of dilute alcohol for one week, and filtering.

HELIOTROPIUM PERUVIANUM.

HELIOTROPE.

This plant is met with both in Europe and this country. In the latter, large numbers are seen growing along the banks of the Shenandoah, near Harper's Ferry. The stem is about ten inches high; the flowers are white.

Part used.—The whole plant.

Form of preparation.—Tincture.

HELLEBORUS FŒTIDUS.

FETID HELLEBORE. BEAR'S FOOT.

This is a perennial herb, having a number of short, radical stems, upon which the palmate leaves are supported. Some of the latter being radical. The flower stem is about a foot high, bearing a close panicle of pale green, sometimes purplish flowers.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the dried root in five parts of alcohol.

HELLEBORUS NIGER.

CHRISTMAS ROSE. BLACK HELLEBORE.

This plant grows on the rocky and wooded mountains of Burgundy, the Alps, Pyrenees, and Vosges. It is also encountered in Austria and Greece. The flower stem rises directly from the root, is about six or eight inches high, and bears one or two convex, pendant, rose-like flowers, having a white or pale rose color, with sometimes a greenish tinge. These unfold in mid-winter, and from this circumstance it has been called the Christmas rose. The root is perennial, knotted, blackish externally, white within, sending out long, yellow fibres. Several varieties have been used indiscriminately with H. niger, as H. orientalis and H. viridis.

Active principles.—Helleborin, soluble in water or alcohol. Volatile and fixed oils.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part of the dried root in five of dilute alcohol, two weeks, and filtering. Brownish-straw color.

HELONIAS DIOICA.

BLAZING STAR. DEVIL'S BIT. UNICORN PLANT. FALSE UNICORN. STARWORT.

A plant native to, and of frequent occurrence in, the western states, where it grows in woodlands and moist localities, although it is some-

times seen in low, moist situations in the middle and southern states. It varies in height from one to three feet, with a smooth but somewhat angular stem. The flowers are small, numerous, greenish-white and are in terminal, nodding masses, like a plume. The seeds are many. The root is large, bulbous, very hard, and covered with transverse wrinkles. The plant is becoming rare and may become extinct, if means are not taken to propagate it.

Active principles.— Helonin(?). This alkaloid is the pseudo-veratrin from V. sabadilla, and, probably, not found in helonias.

Part used.— The root.

Form of preparation.— Tincture, made by macerating one part of the fresh root in two of alcohol, two weeks, and filtering.

HEPAR SULPHURIS CALCAREUM.

IMPURE SULPHIDE OF CALCIUM.

CaS.

This is not to be mistaken for the "liver of sulphur," which is a potassium salt. Hepar sulphuris calcarea is obtained by mixing intimately together equal parts of finely powdered oyster shells and flowers of sulphur, enclosing this in a closely sealed clay crucible and exposing to a white heat for ten minutes, after which it is allowed to cool. On opening the crucible it is found to contain a white porous mass, or a white powder, sometimes yellowish in tint. It has the odor of sulphuretted hydrogen and possesses a putrid taste.

Form of preparation.— Trituration. May be transferred to dilution after the fifth decimal.

HEPATICA TRILOBA.

LIVERWORT.

This plant receives its name from a fancied resemblance of the leaves to the liver. It makes its appearance very early in the spring, sometimes before the snow has gone. There are two varieties, one prefering a southern, the other a northern exposure; the former is the officinal species. The leaves are three lobed, obtuse, (those of the other variety are acute), purplish, and supported on foot stalks springing directly from the root. The flowers are numerous, solitary, generally blue, but sometimes purplish or flesh colored. Not analyzed.

Part used.— The entire plant. The full-grown leaves.

Form of preparation.— Tincture, made by macerating one part of the full-grown leaves in two of alcohol, two weeks, and filtering.

HERACLEUM SPHONDYLIUM.

COW PARSNIP. HOGWEED. BRANCHA URSINA. BEAR'S BREECH.

This is a plant of European growth, and is tall, rough, coarse and

covered with short, stiff hairs. The leaves are broad and from three to five inches long.

Part used.—The root.

Forms of preparation.—Tincture, by adding an equal part of alcohol to the expressed juice. By macerating in five parts of alcohol, two weeks, and filtering.

HURA BRAZILIENSIS.

ASSACU.

A tree, native to equatorial America, growing in the countries drained by the Amazon. The provinces of Para and Rio Negro also contain it. It affords a milky juice, called by the natives assacu; being exceedingly acrid, and producing an erysipelatous and pustular eruption when accidentally brought into contact with the skin.

Active principles.—Hurin (?); possibly from H. crepitans alone.

Form of preparation.—Tincture, made by collecting the milky juice from the punctured stem, then adding an equal part of alcohol.

HYDRASTIS CANADENSIS.

GOLDEN SEAL. ORANGE ROOT.

The stem of this indigenous plant rises about eight or ten inches from a thick, fleshy root, or rhizome, and supports two, unequal, terminal leaves. The flower is solitary, whitish, rose-colored or purplish, and the fruit is a round, purple-red berry, closely resembling a raspberry. The root sends out many radical fibres; is employed by the Indians for dyeing a rich orange color.

Active principles.—Hydrastia, (hydrastin, hydrastina). Hydrastin of the Eclectic practice (muriate of hydrastin) is not the alkaloid basic principle known as hydrastin, but is an isomeron with berberina.

Part used.—The root.

Form of preparation.—Tincture, by maceration in five parts of dilute alcohol for two weeks; filter. Trituration.

HYDROCOTYLE ASIATICA.

THICK-LEAVED PENNYWORT.

A small, trailing plant, growing on moist land in India, southern Africa and the islands of the Indian Ocean. The leaves bear some resemblance to the violet.

Part used.—The whole plant.

Forms of preparation.—Tincture, made by macerating one part of the whole plant in five of alcohol, two weeks. Filter.

HYDROCYANIC ACID.

HYDROGEN CYANIDE. PRUSSIC ACID. CYANHYDRIC ACID.

(CHN). HCy.

An exceedingly poisonous acid. Readily obtained by decomposing the yellow ferrocyanide of potassium with dilute sulphuric acid, and distilling the mixture after reaction in a retort, and conducting the vapor through a condenser. Its strength must be established by volumetric test with silver nitrate, before using, and reduced to 2 per cent. The acid is a colorless, volatile liquid, having an odor like peach blossoms or oil of bitter almonds; must not be confounded with "cyanic" acid. It exists in three forms, solid, anhydrous and liquid. One and one-half grains of the anhydrous acid is sufficient to cause death, and a few drops of the liquid is fatal. Even inhalation of the vapor produces headache, giddiness, etc. It decomposes readily, darkens in color, and deposits a carbonaceous matter. The acid is present in the juice of the bitter cassava and is obtained by distilling the kernels of peaches, plums, bitter almonds and the leaves of the cherry laurel (laurocerasus).

Form of preparation.— Equal parts of a solution containing 2 per cent. of the acid, and dilute alcohol, for the first centesimal dilution. Mixes in all proportions with water or alcohol.

HYDROFLUORICUM ACIDUM.

HF

A colorless, volatile, fuming acid, procured by heating fluor spar (fluoride of calcium) with sulphuric acid in a leaden or platinum retort, and collecting it in a receiver of the same metal. This acid corrodes glass to such an extent that it has to be kept in leaden or vulcanite vessels, and is used for etching on glass.

Form of preparation.— Dilutions with water; potentize in gutta percha vials to the fifth dilution.

HYDROPHOBINUM.

THE VIRUS OF THE RABID DOG.

Form of preparation.— Trituration.

HYDROPHYLLUM VIRGINICUM.

VIRGINIAN WATER LEAF.

The stem of this plant is a foot high, the leaves of which are so constructed that they are able to contain a small quantity of water, as they do in early spring. The flowers vary in color from white to a sky-blue, and are in large, roundish tufts. It is chiefly found in the eastern, middle, and some of the western states.

Part used.— The whole plant.

Form of preparation.— Tincture, made by macerating one part of the plant, when in flower, in two of dilute alcohol, two weeks, and filtering.

HYOSCIAMINUM.

HYOSCYAMIN. (DATURIN. ATROPINE.)

$C_{15}H_{17}NO$

This alkaloid, also called hyoscyamia, is the active principle of hyoscyamus. It is in colorless, transparent, silky crystals, soluble in alcohol, less so in water, has no odor, but an acrid, disagreeable taste. It is identical with daturin from datura stramonium, and also atropine from belladonna.

Form of preparation.— Trituration. A saturated aqueous solution for tincture.

HYOSCYAMUS NIGER.

HENBANE. HOGBEAN.

An herbaceous, biennial plant, occurring in Great Britain, Europe and this country, in which it has been introduced. It is seen growing wild upon waste grounds, old and neglected gardens, graveyards, and amongst the rubbish of ruined buildings. The root is long, tapering somewhat, branching, resembling parsley so closely that it has been eaten in mistake for the latter. The stem appears in the second year, is from one to four feet high and branching. These, with the leaves, are hairy, clammy, and of a sea-green color. The flowers are of a light yellow color, traversed by purple veins, and the fruit is a round capsule, two-celled, covered with a lid, and contains numerous small seeds. The whole plant has a rank odor. The leaves are fatal to birds and dogs, but other animals eat them with impunity.

Active principles.— Hyoscyamin, a base identical to daturin from D. stramonium and atropine from belladonna. The specific virtues of hyoscyamin do not depend entirely upon this alkaloid, though it is very powerful.

Part used.—The entire plant and leaves.

Form of preparation.—Tincture, made by expressing the juice from the recent herb, then adding an equal part of alcohol. Also by macerating the leaves in five parts of dilute alcohol, two weeks, and filtering. Brownish-green color.

HYPERICUM PERFOLIATUM.

ST. JOHN'S WORT.

A hardy, shrubby, perennial plant, growing abundantly in Europe and this country, varying in height from one to two feet, and often

covering large areas. The leaves are covered with numerous transparent vesicles, which give them a perforated appearance when viewed at a distance. The flowers are many, yellow in color, and blossom from June to August. The fruit is a simple capsule containing numerous seeds. Red oil is a domestic remedy made by treating the leaves of this plant with a fixed oil.

Part used.—The fresh plant with leaves.

Form of preparation.—Tincture, made by macerating one part of the fresh plant in two of alcohol, two weeks, and filtering.

HYPOPHYLLUM.

A SPECIES OF AGARICUS.

IBERIS AMARA.

CANDYTUFT.

This plant is indigenous in England and is of frequent occurrence on the continent of Europe. It is small, herbaceous.

Form of preparation.—Tincture of the seeds.

ICTODES FŒTIDUS.

DRACONTIUM FŒTIDUS. SKUNK CABBAGE.

A curious plant growing in this country, the only one of its genus, inhabiting swamps and other low, wet localities, particularly in the central and northern states. The root is large, and gives off a number of fibres that descend a distance of one or two feet. The spathe is brownish-purple and spotted with red, yellow and green. The flowers are placed on the spadix rising from the centre of the spathe, and resemble the latter in color. The seeds, about the size of a pea, are flecked with purple and yellow. The leaves are from one to two feet long and from nine inches to a foot wide. All parts of the plant exhale a fetid odor, due to a volatile oil that is partly dissipated in drying, entirely so by heat.

Part used.—The fresh root.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of dilute alcohol, one week.

IGNATIA AMARA.

ST. IGNATIUS BEAN.

This is the product of a tree growing in the Phillipine Islands and East Indies, having long, round, vine-like branches, and named by the Jesuits after their founder. The flowers are long, tubular, nodding, white and very fragrant. The fruit, about the size and shape of a pear, has a smooth, woody rind, enclosing in a cellular matter about

twenty seeds. These latter are irregular, angular, hard, pale brown, about an inch long and covered with soft down. There is no smell about them, but they possess an excessively bitter taste.

Active principles.—Strychnia. Brucia. Extractives.

Part used.—The bean.

Form of preparation.—Trituration of the bean. Being very difficult to pulverize they must be cut into slices, then moderately heated and triturated. The tincture is made from this powder by macerating two weeks in one part of water, then adding three parts of alcohol, and macerating two weeks longer. Filter. Straw-yellow color, very bitter.

ILEX OPACA.

AMERICAN HOLLY.

The holly is a medium sized tree growing along the Atlantic seaboard and the gulf region, and bears such a close resemblance to its European relative, that it is considered by many to belong to the same species. The foliage is of a shining, perennial green. The fruit is a red berry containing the bitter extractive ilicin. The wood is hard and fine grained.

Part used.—The leaves and berries.

Form of preparation.—Tincture, made by macerating one part of the leaves and berries in two of dilute alcohol, two weeks, and filtering.

ILLISIUM ANISATUM.

SNIXATUM STELLATUM. STAR ANISE SEED.

This is not to be mistaken for the ordinary anise seed (pimpinella anisum) as it is from altogether a different plant. This is an evergreen growing in China, Japan, and Tartary, the fruit of which consists of from five to ten brownish, fibrous capsules, less than half an inch long and united at one end to form radii like a star. Each of these contains a brown, shining seed.

Part used.—The ripe fruit.

Form of preparation.—Tincture, made by powdering the ripe fruit and macerating one part in five of alcohol, one week. Filter.

IMPERATORIA OSTRUTHIUM.

MASTERWORT.

This is an umbiliferous plant found in the south of Europe. The common name is also applied to the angelica atropurpura.

Part used.—The root.

Form of preparation.—Infusion of the root.

INDIGO TINCTORIA.

INDIGO.

This is a plant growing in a sandy, loamy soil in the East and West Indies, the northern part of South America, South Carolina and Florida. The juice of the plant is dissolved out with water, and concentrated to a solid mass.

Form of preparation.— Trituration.

INDIUM.

A metal discovered to exist in very small quantities in zinc blend. It has a lead-gray color, is soft, malleable, and makes a black mark upon paper like a lead pencil.

Form of preparation.—Trituration.

INULA HELENIUM.

ELECAMPANE.

A native of Europe, where it is also cultivated, this plant is naturalized to a certain degree in this country. It is most frequently met with in the New England states and thence south to Pennsylvania. The root is thick and branched with many small fibres. It is brown externally, white internally, has a camphorous smell and a warm, bitter taste. The flowers are large, golden yellow, and placed at the end of the stem and branches.

Active principles.—Inulin; helenin; bitter extractives and resins.

Part used.—The root.

Form of preparation.—Tincture, by macerating in dilute alcohol two weeks, and filtering.

IODOFORMUM.

IODIDE OF FORMYL. IODOFORM.

CHI_3

Prepared by heating an alcoholic solution of iodide of potassium to 140° F., and stirring in successive portions of chlorinated lime. A mass of crystals forms on cooling, which are filtered out in close vessels, and then treated with boiling 90 per cent. alcohol, by which the iodoform alone is dissolved. Evaporation furnishes the crystals, which are in small, yellow, six-sided scales, having an odor like saffron, and a sweetish taste. Very volatile.

Form of preparation.—Solution of one part of the crystals in eighty of alcohol. (Serullas). Very soluble in alcohol. (Elliott).

IODIUM.

IODINE.

A non-metallic element mostly obtained from kelp or sea weed. It

also exists in minute quantity in all three kingdoms of nature. The northern shores of Scotland and Iceland furnish the greatest amount of kelp, where it is burned to ashes, mixed with water and concentrated by heat. By this process nearly all the salts are precipitated, the more soluble ones being retained in solution. Sulphuric acid is added to the liquid, and the whole distilled with deutoxide of manganese, the iodine being condensed in a series of glass receivers. It is afterwards purified by sublimation. Iodine is in shining, crystalline plates, or scales of a bluish-black color, having an odor like chlorine, and a hot, acrid taste. It is soluble in alcohol and ether, dissolves in seven thousand parts of water, and strikes a deep blue color with starch.

Form of preparation.— Trituration. Soluble in ten to twelve parts of alcohol. (Wittstein). Freely soluble in alcohol. (Vanfuelin). Tincture made by dissolving one part of iodine in twelve of alcohol. (To conform in strength with that universally in use).

IPECACUANHA.

IPECAC. CEPHÆLIS IPECACUANHA.

A small, shrubby plant, growing in the moist, thick, shaded woods of Brazil. The stem is about two or three feet long, but as a considerable portion is beneath the surface it does not rise more than a foot above ground. It has an ash-colored or brownish bark, and is furnished with but few leaves. The flowers are small, white, and grouped in eights, twelves, or more. The fruit is an oval berry, purple at first, changing as it ripens to black, and contains two small, plano-convex seeds. When pulverized, a nauseous odor is developed, and an acute attack of dyspnœa is frequently excited.

Active principles.— Volatile oil; emetia, the emetic principle. Ipecacuanhic acid.

Form of preparation.— Trituration of the dried bark of the root. Tincture, made by macerating one part of the dried root in five of dilute alcohol, two weeks, and filtering.

IRIS FLORENTINA.

ORRIS ROOT. WHITE FLAG.

This is a native of Italy and other parts of southern Europe. The root, of various forms and sizes is branched, knotted, white, about the thickness of a thumb, and in the recent state possesses an agreeable odor, losing this in a great measure on drying. The leaves are sword-shaped, spring directly from the root, and are shorter than the stalk. This rises from among the clustered leaves, is about a foot high, and bears at its summit two large, white or bluish-white flowers The fruit is a two-celled capsule containing a number of seeds.

Active principles. — Volatile oil; two resins, fixed oleo-resin and a crystallizable resin.

Part used.— The fresh root.

Form of preparation.—Tincture made by macerating one part of the fresh root in two of dilute alcohol, two weeks, and filtering. Trituration.

IRIS VERSICOLOR.

BLUE FLAG.

An indigenous species found in low, wet, marshy grounds in nearly all parts of this country. The root is horizontal, fibrous and fleshy; the leaves are sword-shaped and sheathed at the base, and the flowers are blue or purple, and vary in number from two to six. Plant not analyzed for proximate principles. Irisin is an extractive, thrown down from tincture by water.

Part used .— The fresh root.

Form of preparation.—Tincture, made by macerating one part of the fresh root in two of alcohol, one week, and filtering.

JABORANDI.

The pilocarpus pinnatus is one of a species of shrubs growing in Brazil, the leaves and bark of which, when chewed, produce a prickling heat in the mouth. The fruit consists of several carpels, splitting in two valves when ripe, and disclosing the seeds, all of which resemble cockle shells with the valves opened. The alkaloid pilocarpia is obtained from this plant.

Active principles.— Jaborandine. Pilocarpia, an alkaloid.

Part used.—The fresh leaves.

Form of preparation.—Tincture, made by macerating one part in two of alcohol, two weeks, and filtering.

JACARANDA CAROBA.

This tree attains a height of twenty feet or more, and is very common in the gardens and plantations of Brazil. The wood is white and the flowers blossom in September.

Part used.— The flowers.

Form of preparation.— Trituration. Tincture, made by macerating one part of the flowers in five of alcohol, two weeks, and filtering.

JALAPA.

JALAP. IPOMŒA PURGA.

This plant is a native of the Mexican Andes at an elevation of six

thousand feet, and receives its name from the city of Xalapa, in whose vicinity it is abundant. It is said to grow also in Florida and the Carolinas. It is a climbing vine and ascends trees or bushes to a considerable height. The leaves are large and heart-shaped, and the large flowers have a lilac-purple color. The root or tuber is roundish or pear-shaped, varies in size from a nut to the size of a fist, has a black, resinous bark, and gives off many radicals. When received in this country it is in the form of transverse, circular slices.

Active principles.— Rhodeoretin, jalapin. Jalap resin. Jalapin is in fact "convolvulin" from the convolvulus orizabenzis, a spurious jalap. Jalapic acid is not a natural principle in the root.

Part used.—The root.

Form of preparation.— Trituration of the dried root. Tincture, made by macerating one part of the dried root in five of dilute alcohol, two weeks, and filtering. Brownish-straw color, nauseous taste.

JASMINUM OFFICINALE.

WHITE JESSAMINE.

A native of Asia, but extensively cultivated for its fragrant flowers and handsome appearance. The twining stem is several feet long, with lance-like leaves, and supports a few white, terminal flowers. An oil is extracted from this plant by the perfumer.

Part used.— The berries.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks, and filtering.

JATROPHA CURCAS.

PURGING NUT. CUBAN PHYSIC NUT. BARBADOES NUTS.

A tree growing in Cuba, Brazil and on the west coast of Africa. Although a small tree, it has a large, branched top; the fruit is a three-celled capsule, each cell containing a blackish-brown, oval plano-convex, striated seed, having a white, almond-like kernel. This has at first a sweetish taste, afterwards acrid and corrosive. A colorless, odorless oil is expressed from it, which on standing deposits a whitish substance, supposed to be margarine.

Active principles.— Resin. Free acids. Oil, of considerable medicinal power, (ol. cicinum).

Part used.— The seeds.

Form of preparation.—Trituration. Tincture, by macerating in five parts of alcohol for two weeks. Filter.

JUGLANS CINEREA.

BUTTERNUT. WHITE WALNUT. OIL NUT.

An indigenous forest tree of great size, having horizontal branches

a large, tufted head, and smooth, grayish branches. The leaves are very long, with many leaflets, and the flowers in the form of long aments. The fruit drupe is oblong, hairy, brown when ripe and contains a dark colored, oblong nut, having a thick, oily kernel.

Active principles.— "Juglandin" of J. regia does not exist in this plant. Juglandic acid. Neucin.

Part used.— The bark of tree or root.

Form of preparation.— Tincture, made by macerating one part in two of alcohol, two weeks, and filtering.

JUGLANS REGIA.

PERSIAN WALNUT.

A dark colored, oblong nut, having a thick, oily kernel.

Active principles.— Juglandin, nearly insoluble alkaloid.

Part used.— The leaves and rind of the green fruit.

Form of preparation.—Tincture, made by macerating one part of the leaves and rind (equal parts) in five of alcohol, and filtering. Express debris and add the product to the filtrate.

JUNCUS EFFUSUS.

BULRUSH (?). SOFT RUSH.

An aquatic plant growing in ditches, swampy lands, etc., in the form of tufts two or three feet high, and bearing numerous small green flowers. The seeds are yellowish.

Part used.—The root.

Form of preparation.—Tincture by macerating in five parts of alcohol, one week, and filtering.

JUNIPERUS COMMUNIS.

JUNIPER.

This is a native of Europe, and has been naturalized in some parts of this country. It is a small, shrubby tree, six or eight feet high, having a number of prostrate branches, and rises in the form of a slender pyramid. The leaves arranged in whorls of 3's are long, ending in a sharp, bristly point. The fruit is a round or oblong berry about the size of a pea, blackish-purple in color, and contains a brownish-yellow pulp and three angular seeds. These possess an aromatic odor and a terebinthinate taste, in common with the resin naturally exuding from the bark, and are used to manufacture gin. Proximate principles unimportant and uncertain. Cedrene (?).

Part used.— The berries, received from the south of France.

Form of preparation.— Tincture, made by macerating one part in two of dilute alcohol, one week, and filtering.

JUNIPERUS VIRGINIANA.

JUNIPERUS SABINA. RED CEDAR.

An evergreen tree of very slow growth and found most frequently in the maritime parts of this country, in rocky, dry soils. The fruit is a blue berry covered with a white powder; the wood is reddish, firm, durable, and the branches are frequently dotted with small excrescences, of resinous substance, called cedar apples. It contains many but unimportant extractives. Cedar oil has some specific properties.

Part used.— The young twigs and leaves.

Form of preparation.— Tincture, made by macerating one part in two of alcohol, two weeks, and filtering.

KALI ACETICUM.

"NORMAL" ACETATE OF POTASH. POTASSIUM ACETATE.

$(C_2 H_3 O_2)K$

To carbonate of potassium add acetic acid until a faint acid reaction is given; evaporate to dryness, heat to fusion. On cooling slowly it crystallizes. These masses are white, satiny, smooth, deliquescent, have a pungent, saline taste, and are resolved into an oily liquid on exposure. From its foliated texture it has been called foliated earth of tartar. It is fully soluble in ether, and alcohol, more so in water.

Form of preparation.— Trituration. Saturated solution in alcohol for tincture, (about one part to three of alcohol).

KALI ARSENITUM.

ARSENITE OF POTASSIUM.

$As_2 O_3 . K_2 O$

Add solution of arsenious acid to solution of potassa until the reaction is neutral; evaporate. A hygroscopic salt, soluble in water, insoluble in alcohol. The above is the normal salt.

Form of preparation.— Trituration. May be transferred to alcoholic dilutions after the third decimal.

KALI BICHROMICUM.

BICHROMATE OF POTASSIUM.

$K_2 O, (Cr_2 O_3)_2$

To a strong solution of neutral, yellow chromate of potassa add light excess of sulphuric acid, and slowly evaporate, until the bichromate of potash crystallizes in the form of orange-red crystals. Do not evaporate more than two-thirds of the menstruum. The crystals are large, prismatic, and soluble in ten parts of water, but not in alcohol. It is of frequent use in dyeing and for printing calicoes.

Form of preparation.—Trituration. Saturated solution in water for tincture. Alcohol may be used after third decimal attenuation.

KALI BROMIDUM.

KALI HYDROBROMICUM. BROMIDE OF POTASSIUM.

KBr.

Bromine and zinc scraps are put in twenty or thirty parts of water. In two or three days the water contains bromide of zinc. Filter. To filtrate add carbonate potash, (pure), until the zinc is all thrown down as carbonate. Filter. Wash, add wash water to filtrate and evaporate to one-fourth. Set aside to crystallize. It is then in colorless, cubic crystals, having a warm, saline taste.

Form of preparation.—Trituration. Saturated solution in water for tincture. Alcohol may be used after second decimal.

KALI CARBONICUM.

NORMAL CARBONATE OF POTASSIUM.

K_2O, CO_2

This salt is chiefly obtained from wood ashes; the alkali being incombustible is yielded unchanged. A saturated, watery solution of this is then subjected to a temperature which fuses it, and burns out combustible matters. This is a solid at ordinary temperatures, and is known as impure carbonate of potash. To purify this, an equal part of cold water is added to precipitate other salts contained in it, after which it is filtered, evaporated to concentration, and allowed to cool, when the salt is deposited in small crystals. A very pure article is made by fusing bicarbonate of potassium in a crucible. On cooling, it is dissolved in distilled water, filtered, evaporated to dryness, constantly stirring, to form a granular salt. Carbonate of potassium also exists in fieldspathic rocks.

Form of preparation.—Solution in dilute alcohol for tincture. Trituration.

KALI CHLORICUM.

POTASSIUM CHLORATE. CHLORATE OF POTASSA.

$K\,ClO_3$. KO, ClO_2.

There are several methods of preparing this salt. The simplest is by the conduction of chlorine gas into a warm solution of carbonate of potassium until the solution is saturated; evaporate to some extent, and then allow the solution to cool; crystals of chlorate of potash are deposited. Hydrate of lime is sometimes added to the solution of carbonate of potassa, previous to the introduction of chlorine, the chloride of calcium remaining in the solution, and the chlorate of potassa

crystalizing as before. Filter and dry. It is a white salt, exploding violently on being struck, and is one of the ingredients of the so-called parlor matches.

Form of preparation.— Cannot be safely triturated. Saturated solution in water for tincture. Dilute alcohol may be used for second decimal.

KALI CYANIDUM.

CYANIDE OF POTASSIUM. CYANURET OF POTASSIUM.

K Cy. (K CN). (HKO H Cy, the Hydrocyanate.)

Ferrocyanide of potassium, rendered anhydrous by gentle heat, and dried carbonate of potassium are intimately mixed, in proportion of eight to three, and the mixture placed in a red hot, iron crucible, and heated until effervescence ceases. Decant into shallow vessels, care being taken that the metallic iron at the bottom of the crucible is not poured out. Thus prepared it is in white, opaque, deliquescent masses, and exceedingly impure. Soluble in water, slightly soluble in alcohol.

Form of preparation.—Trituration. Saturated solution in water for tincture.

KALI FERROCYANIDUM.

YELLOW PRUSSIATE OF POTASH. FERROCYANIDE OF POTASSIUM.

$K_4 Fe'' Cy_6$

Prepared by heating refuse animal matter, (as horse's hoofs, old leather, dried blood, etc., all of which are rich in nitrogen), with impure carbonate of potassa and iron filings. These are digested to a pasty consistence, dipped out, allowed to cool, and then treated with hot water to dissolve out the salt. Filter and evaporate the filtrate to crystallization. The crystals are large, transparent, yellow, without odor, having a sweetish, bitter, saline taste; soluble in water, but not in alcohol.

Form of preparation.—Trituration. Saturated solution in water for tincture.

KALI HYPOCHLORITUM.

HYPOCHLORITE OF POTASSA.

To solution of potassa hydrate add hypochlorous acid until the reaction is neutral. Evaporate by sand or water bath. This salt exists only in mixture with other potassa-chlorine combinations.

KALI HYPOPHOSPHITUM.

HYPOPHOSPHITE OF POTASSIUM.

$KPO_3 H_3$

When solutions of hypophosphite of calcium and granulated car-

bonate of potash are mixed, a double decomposition takes place, in which carbonate of lime and hypophosphite of potassa are formed, the former being precipitated. The latter, held in solution, is obtained by evaporation to dryness, stirring constantly in order that the salt may granulate.

Form of preparation.—Saturated solution in alcohol for tincture. Trituration.

KALI IODIDUM.

IODIDE OF POTASSIUM.

KI.

Potassa and iodine are heated together in water and evaporated to dryness, pulverized charcoal being mixed with it before the evaporation is complete. It is then powdered, placed in a crucible and exposed to a red heat for fifteen minutes, cooled, dissolved in water, filtered and crystallized. Another method consists in immersing iodine with iron filings or zinc scraps in water, iodide of iron or zinc resulting. The solution is filtered, decomposed with pearl ash, by which carbonic acid unites with the metal and precipitates, leaving iodide of potassium in solution, which is filtered or evaporated to crystallization. There are still other processes for producing this salt. Iodide of potassium is in the form of transparent, cubic, usually opaque, crystals.

Form of preparation.—Trituration. Saturated solution in alcohol for tincture.

KALI PERMANGANICUM.

PERMANGANATE OF POTASSIUM.

$K_2 Mn_2 O_8$

If manganate of potassa is placed in a large amount of water, it decomposes into hydrated dioxide of manganese and permanganate of potassium, the former precipitating, while the latter remains in solution, forming a deep purple liquid. Filter. Evaporate to crystallization in the form of slender, dark purple crystals, having a sweetish, astringent taste ; are quite soluble in water, to which it imparts a rich, purple color. Great care should be taken to preserve it in tightly stopped bottles, as organic matters floating in the atmosphere are acted upon by it, to the injury of the preparation.

Form of preparation.—Trituration. Saturated solution in water for tincture.

KALI NITRICUM.

NITRATE OF POTASH. NITRE. SALTPETER.

KNO_3

This salt exists pre-formed in caves, beds, and the crevices of lime-

stone rocks, and is obtained from all these sources. The state of Kentucky contains nitre caves, large deposits occur in Bradford county, Penn., and the vicinity of Nashville, Tenn. It is claimed that a mountain of this substance has been found in the Rocky mountains, "six miles northeast of crystal peak." In the eastern hemisphere, Europe, Egypt and India furnish large amounts. In France and Germany it is formed artificially by mixing animal and vegetable refuse with mortar and loose soil and watering the heaps occasionally with putrid urine. After a time the whole is lixiviated with water, and decomposed with a solution of wood ashes, concentrated, crystallized and afterwards purified. It is a white salt, having a sharp, cool, saline taste, dissolving in water but not in alcohol.

Form of preparation.—Trituration. Saturated solution in water for tincture.

KALI OXALICUM.

SALT OF SORREL. BINOXALATE OF POTASSIUM. SALT OF LEMONS.

$C_2\ HKO_4 + 2Aq.$

The name, salt of sorrel, is derived from the fact of its existence in the plants bearing the name of sorrel. In Switzerland and Germany it is procured mainly from the oxalis acetosella or wood sorrel, but may be prepared artificially by making two solutions of oxalic acid in hot water, neutralizing one with carbonate of potassium and then adding the other. Crystals are formed on cooling, having a sour taste and but sparingly soluble in water.

Form of preparation.—Trituration. Dilutions may be used after the first decimal.

KALI PHOSPHORICUM.

PHOSPHATE OF POTASSIUM.

$2K, H\ PO_4\ H_2\ O$

Dissolve glacial phosphoric acid in water and boil. Saturate a solution of potassium carbonate with this solution of phosphoric acid and heat gently; filter, and slowly evaporate on sand bath to crystallization. The tribasic, neutral salt is produced, though slightly alkaline.

Form of preparation.—Trituration. Saturated solution in water for tincture.

KALI PICRICUM.

PICRATE OF POTASSIUM.

$C_7\ H_4\ K\ (NO_2)_3\ O$

Nearly insoluble in water and alcohol.

Form of preparation.—Trituration. May be transferred to dilution after the second decimal.

KALI TERSULPHIDUM.

POTASSIUM SULPHURATUM. LIVER OF SULPHUR. TERSULPHIDE OF SIUM. HEPAR SULPHURIS.

$K_2 S_3$

When sublimed sulphur and carbonate of potassium are rubbed to a powder, intimately mixed, fused in a covered crucible and poured out upon a stone slab, a dark brown mass results, which is sulphide of potassium, also called hepar sulphuris or liver of sulphur from its resemblance in color to that of a recent liver. It should be remembered, however, that this is not the hepar sulphuris calcarea. When dry it is brittle, when moist it is much less so, and then gives off sulphuretted hydrogen. It is soluble in water, to which it imparts a yellow color, and at the same time evolves the above-named gas.

Form of preparation.— Trituration. Saturated solution in alcohol for tincture.

KALI SULPHURICUM.

SULPHATE OF POTASSIUM. VITRIOLATED TARTAR.

$K_2 SO_4$

This occurs as a secondary product during the manufacture of other chemical substances, and is a white salt, crystallizing in numerous, small, hard, transparent prisms, bearing some resemblance to those of quartz. It is soluble in water but insoluble in alcohol.

Form of preparation.— Trituration. Saturated solution in water for tincture.

KALI TARTARICUM.

TARTRATE OF POTASSIUM. SOLUBLE TARTAR.

$K_2 C_4 H_4 O_6$

A neutral salt, prepared by neutralizing a solution of bi-tartrate of potassium with carbonate of potassium to the point of saturation, and then crystallizing. The crystals are permanent, and have a bitter, saline taste.

Form of preparation.— Trituration. Saturated solution in water for tincture.

KALI TELLURICUM.

TELLURATE OF POTASSIUM.

$TeO_4 K_3$

Add solution of telluric acid to a solution of potassium carbonate in hot water, until the alkali is fully neutralized. Evaporate gently.

Soluble in water. Insoluble in alcohol.

Form of preparation.— Trituration. Saturated solution in water for tincture.

KALMIA LATIFOLIA.

CALICO BUSH. LAMBKILL. MOUNTAIN LAUREL. SPOONWOOD.

Sometimes as a shrub, sometimes a small tree, the mountain laurel is met with in various parts of this country, and as its name implies in hilly, mountainous situations. The leaves are narcotic and fatal to sheep, although deer, goats and partridges eat them apparently without harm. It is said, however, that the flesh of partridges is rendered poisonous in this way, and that fatal results have followed its use. The flowers are abundant, white tinged with, red and disposed in splendid corymbs.

Part used.— The mature leaves.

Form of preparation.— Tincture, made by macerating one part in two of alcohol, two weeks, and filtering.

KAOLIN.

PORCELAIN CLAY. SILICATE OF ALUMINIUM.

$Si_3 O_8 AlK$

When granite, porphyry, trachyte, feldspar and other unstratified rocks disintegrate a soft, friable mass results, forming a species of clay. Large deposits of this are found in Devonshire and Cornwall, England. It is washed and separated from quartz and mica, the kaolin imparting a milky appearance to the liquid. This is allowed to stand for a time, when the clay held in suspension is precipitated. This deposit is dried first in the air, afterwards by artificial heat.

Form of preparation.— Trituration. May be transferred to dilutions after the fifth decimal.

KARAKA.

KOPI TREE OF NEW ZEALAND.

Part used.— The fresh seeds.

Form of preparaton.— Trituration. Tincture.

KATIPO.

A VENOMOUS SPIDER OF NEW ZEALAND AND CALIFORNIA.

Part used.—The entire living insect.

Form of preparation.— Trituration.

KEROSOLENE.

One of the lighter (possibly the lightest) products obtained by distillation from the crude oil obtained from *albatite* from Nova Scotia, nearly or quite identical with *qasolene.*

KINO AUSTRALIENSE.

KINO.

This is the product of a tree growing in Senegal, East India and

Australia, but is received only from the last two countries. The pterocarpus marsupium affords it in India, and is a tree growing to a great height on the mountains of the Malabar coast, while that from Australia is derived from a species of eucalyptus, also a lofty tree. In each of these countries incisions are made in the bark of the trees, and the exuding gum allowed to harden in the open air, in the form of tears and masses. Kino is a brittle, ruby red or reddish-brown substance easily pulverizable to a reddish powder, and has a bitter, with a sweetish after-taste.

Form of preparation.— Tincture made by dissolving one part in five of dilute alcohol.

KOOSSO.

KOUSSO.

This is a tree about twenty feet high, growing in Abyssinia at an elevation of six or seven thousand feet above tide water. The leaves are crowded near the terminal portion of the branches and are quite large. When these fall, a circular scar remains upon the branches, at the place where they have been attached. The flowers are small, greenish, and tinged with purple.

Part used.—The dried blossoms.

Form of preparation.— Trituration.

KREOSOTUM.

CREASOTE.

$C_8 H_{10} O_2$

In the distillation of pyroligneous acid the distillate separates into three layers, a lower oily, a middle watery, and an upper oily. The lowest of these contains creasote. By repeated distillation of this, a liquid is obtained free from all other matters, and to which the name of kreasote is applied. It is a colorless, oily, volatile liquid, having a caustic, burning taste, and a penetrating odor, like that of smoked meat. It is apt to contain picamar and capnomor, not being entirely freed from these, and is sometimes adulterated with carbolic acid and some of the fixed oils. It is soluble in alcohol, ether and glacial acetic acid, but only slightly in water.

Form of preparation.— Dilution with alcohol in the proportion of one to nine.

LABURNUM.

CYTISUS LABURNUM. LABURNUM.

A native of the higher mountains of Europe, this tree has been introduced into every civilized country. It is about fifteen feet high.

Active principles.— Cytisus. Laburnin.

Part used.— The bark.

Form of preparation.— Tincture, by macerating in five parts of dilute alcohol, two weeks, and filtering.

LACERTA AGILIS.

THE GREEN EUROPEAN LIZARD.

Part used.— The entire dried animal.

Form of preparation.— Trituration.

LACHESIS TRIGONOCEPHALUS.

THE LANCE-HEADED VIPER OF BRAZIL.

Part used.— The venom.

Form of preparation.—Dilutions in alcohol.

LACHNANTHES TINCTORIA.

SPIRIT WEED. RED ROOT.

An herb growing in sandy swamps along the coast, from New Jersey o Florida. It is about twenty inches high, with rush-like leaves clustered at the base, and nearly as high as the stem. The hairy stem sparingly furnished with leaves, is crowned with a number of aggregated, dingy, yellow flowers, covered externally with an abundance of white wool. The root is red, fibrous and perennial, and is used for dyeing.

Part used.— The whole plant.

Form of preparation.— Tincture made by macerating one part in wo of alcohol, two weeks, and filtering.

LACTICUM ACIDUM.

LACTIC ACID.

$C_3 H_6 O_3$

This acid is present in souring milk, gastric juice. muscular fluid, he juices of beets, turnips, carrots, sauerkraut, the sour liquor of the starch maker, etc. It has been found in the urine of those poisoned with phosphorus, and occurs in the perspiration of rheumatic fever. When existing in the muscular tissue it is termed paralactic acid. Lactic acid is a colorless or pale, urine colored liquid, with little or no odor, but having an intensely sour taste. Albumen is coagulated and phosphate of lime is dissolved by it. Soluble in water or alcohol.

Form of preparation.— Trituration. Solution of equal parts by weight in alcohol for tincture.

LACTUCA VIROSA.

STRONG-SCENTED LETTUCE. POISONOUS LETTUCE.

Grows in England and the south of Europe, preferring a chalky

soil, hillsides, ramparts, etc. It is also cultivated. It rises two to four feet high with prickly leaves and yellow flowers, contains an acrid, milky juice, exhales a disagreeable odor, somewhat like opium, and possesses a bitter taste. The fruit is black.

Active principles.— Lactucin. Lactucone.

Part used.— The entire plant.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol. By macerating in five parts of alcohol, two weeks; filtering; expressing residue and adding juice to filtrate. Filter.

LAMIUM ALBUM.

DEAD NETTLE.

Part used.— The fresh leaves and blossoms; two-thirds of the former, one-third of the latter.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol.

LAPIS ALBUS.

SILICO-FLOURIDE OF CALCIUM.

This is a kind of gneiss rock that is found in large quantities in the Tauern mountains in Germany, and is also held in suspension in gastien mineral water.

Form of preparation.—Trituration. May be transferred to dilutions after the sixth decimal.

LAPPA MAJOR.

BURDOCK.

A well known weed often seen in fields, by the roadside, etc., in the eastern, middle and western states. It is large, coarse, and has an unpleasant odor. The leaves are large and heart shaped, with wavy edges. The flowers are of a delicate pink color, and are disposed at the summit of the plant. The seeds terminate in a hook-like process. Not analyzed.

Part used.—The root.

Form of preparation. —Tincture, by macerating in five parts of alcohol one week; filter.

LATHYRUS SATIVUS.

CHICK PEA.

A native of southern Europe.

Part used.—The peas.

Form of preparation.—Tincture.

LAUROCERASUS.

PRUNUS LAUROCERASUS. CHERRY LAUREL.

An evergreen tree, a native of Persia and Asia minor, but now domesticated in nearly all parts of southern Europe. It is from fifteen to twenty feet high, and covered with a smooth, blackish bark. The leaves are from five to seven inches long, leathery, glossy and bitter. The flowers, arranged in clusters, are white, tinged with yellow, and have a strong odor. The fruit is purplish black, and about the size of a cherry.

Active principles.—Hydrocyanic acid. Laurel oil, (no amygdalin.)

Part used.—The young leaves.

Form of preparation.—Tincture, dark green color, taste and smell of bitter almonds; made by macerating in two parts of very dilute alcohol one week; filter. A watery infusion yields hydrocyanic acid by distillation.

LEDUM PALUSTRE.

MARSH TEA. WILD ROSEMARY.

A shrub two to three feet high, growing in marshy, swampy localities in the north of Europe, Labrador, and in this country from Pennsylvania northward to Greenland. The leaves are covered on their under surface with a rust-colored down, emit a balsamic odor, and have an aromatic, bitter, camphorous taste. The flowers are numerous, clustered, white, though sometimes rosy. It yields an active volatile oil.

Part used.—The entire dried herb. The leaves and flowers in June.

Form of preparation.—Tincture, dark brown color, strong taste and odor of turpentine; made by macerating one part in five of alcohol, two weeks. Filter.

LEPIDIUM BONARIENSE.

This is a Brazilian plant growing abundantly in the neighborhood of Rio Janeiro, and upon stony soil. It rises by numerous erect stems to a height of twenty or thirty inches, and blossoms in September.

Part used.—The fresh leaves.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Trituration made from fresh leaves.

LEPTANDRA VIRGINICA.

QUITEL. HINA. CULVER'S ROOT. CULVER'S PHYSIC. BLACK ROOT.

An herbaceous plant growing in all parts of this country, and generally in limestone regions. It attains a height of three or four feet, is furnished with whorled leaves and crowned with a long spike of white

flowers. The perennial root is horizontal, six to twelve inches long, and the thickness of a finger, woody, blackish-brown, with many fibres, and should be gathered not earlier than the autumn of the second year.

Active principles.—Glucosides. An impure resinoid. Leptandrin.

Part used.—The biennial root.

Form of preparation.—Tincture made by macerating one part in two of dilute alcohol two weeks; filter.

LILIUM TIGRINUM.

TIGER LILY.

A bulbous plant native of Mexico, Peru, China and Japan, and cultivated in this country as an exotic. It is above two feet in height, with large leaves, sometimes a foot long. The flowers are large, orange-colored, and dotted with black, crimson and purple.

Part used.—The stalks, leaves and flowers.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Also by macerating in two parts of alcohol, if fresh, (five, it dry), one week. Filter.

LIMULUS CYCLOPS.

KINGCRAB.

Part used.—The dried blood.

Form of preparation.—Trituration.

LINARIA VULGARIS.

SNAPDRAGON. TOAD-FLAX.

This shrub is quite common from the New England states to Kentucky, both in a wild and cultivated state. It is one or two feet in height, bushy and leafy, and bears some resemblance to flax. The flowers are large, yellow, crowded on a terminal spike, and quite numerous.

Part used.—The whole plant.

Form of preparation.—Tincture, made by macerating one part in two of alcohol two weeks, and filtering.

LINUM CATHARTICUM.

PURGING FLAX.

Part used.—The whole plant.

Form of preparation.—Tincture made by macerating one part in two of alcohol two weeks, and filtering.

LITHIUM CARBONICUM.

LITHIUM CARBONATE. CARBONATE OF LITHIA.

$Li\ CO_3$.

A rare substance found in minute proportions in the minerals petalite, amblygonite, spondumene, lepidolite, mica, a variety of tourmaline, certain mineral springs in Europe and the Gettysburg spring in Pennsylvania. To minerals containing $LiCO_3$ add sulphuric acid until effervescence ceases. Boil. To the filtered solution add one-fourth its volume of dilute carbonate of ammonia. Set aside twenty-four hours; filter. Add to filtrate equal part of solution of carbonate of ammonia, and filter. Precipitate is carbonate of lithia. It is white, granular or crystalline, and the lightest solid known, its specific gravity being only 0.59. It is but slightly soluble in water, insoluble in alcohol, and gives a carmine color when burnt in the flame of alcohol.

Form of preparation.—Trituration. May be transferred to dilutions after the third decimal.

LOBELIA CARDINALIS.

CARDINAL FLOWER.

This species of the lobeliaceæ is a tall plant, growing in meadows, and along the borders of streams from Canada to the Carolinas, varying from two to four feet high, and bearing dark, scarlet flowers.

Part used.—The whole plant in flower.

Form of preparation.—Tincture made by macerating one part in two of dilute alcohol one week; filter.

LOBELIA INFLATA.

INDIAN TOBACCO.

An indigenous plant, usually about a foot high, and growing in all parts of the United States. The stem is angular, branched and hairy, and the leaves are also hairy. The flowers are small, pale blue and abundant. The fruit is an oval, two celled capsule containing a number of small brown seeds.

Active principles.—Lobelic acid. Lobelina.

Part used.—The entire plant.

Form of preparation.—Tincture made by macerating one part in two of dilute alcohol one week, and filtering.

LOBELIA SYPHILITICA.

GREAT BLUE LOBELIA.

Also indigenous and quite common in the western states. It has a downy stem, is about three feet high, bears a blue or purplish flower, and generally resembles the other varieties of lobelia.

Part used.—The plant.

Form of preparation.—Tincture made by macerating one part in two of alcohol two weeks, and filtering.

LOLIUM TEMULENTUM.

POISONOUS DARNEL GRASS.

A grass met with chiefly in the middle states, also in Europe, where it grows two feet high, and very often among wheat and other grains. The seeds are sweetish, and often infested by an ergot, upon which their poisonous properties are said to depend, and that when sound grains are used. no effect is perceived.

Part used.—The ripe seeds gathered in August.

Form of preparation.—Trituration. May be made into tincture by macerating in five parts of alcohol two weeks, and filtering; greenish, brown-yellow color, inodorous.

LONICERA XYLOSTEUM.

FLY HONEYSUCKLE.

A branching shrub three or four feet high, mostly found in wooded situations from Maine to Ohio. The leaves are thin and long, the flowers occur in pairs, of a pale straw color. The fruit is paired, oval, red, and many seeded.

Part used.—The berries.

Form of preparation.—Tincture, made by macerating one part in two of alcohol one week, and filtering.

LUPULUS.

HUMULUS LUPULUS. HOPS.

This is a flexible vine, twining in a spiral direction from left to right upon natural objects, or upon poles set for the purpose. The leaves are rough from the many minute prickles with which they are studded. The flowers are numerous and yellowish-white or pale green, according as they are male or female. The fruit is an oval, membranous cone composed of many scales, each supplied at the base with two small seeds surrounded by a yellowish, granular powder. This latter is lupuline and is obtained by threshing and sifting.

Active principle.—Lupulin (not the lupuline).

Part used.—Cones, gathered in August and September.

Form of preparation.—Trituration. Tincture made by macerating one part in five of dilute alcohol, one week. Filter. Dark brownish-red color, and bitter taste.

LYCOPERSICUM.

SOLANUM LYCOPERSICUM. TOMATO. LOVE APPLE.

This is the garden esculent with which every one is familiar. The stem is yielding, branching, and covered with soft hairs; the leaves are jagged and the flowers are greenish-yellow. The fruit is large, deeply furrowed, red when ripe, and contains a great number of seeds.

Active principle.— Solanin (?).

Part used.— The stems.

Form of preparation.— Tincture made by macerating the stems in two parts of dilute alcohol, one week. Filter.

LYCOPODIUM CLAVATUM.

CLUB MOSS. WOLF'S FOOT.

A trailing, evergreen plant, native in this country, Europe, Great Britain, Finland and Russia, and usually found in stony, hilly or wooded localities. It is several feet long, giving off numerous, linear-lanceolate, ribless leaves, terminating in capillary bristles, turned upwards. The flowers are arranged upon terminal spikes, either single or paired. The pods contain a fine, yellow dust or powder, which is composed of cells containing an oily fluid. It is frequently adulterated with the pollen of pines, firs, etc., and talc or other powders, colored by gamboge. These latter are detected by throwing the powder into water, when the foreign matters sink to the bottom. The pollen of pines or firs may be detected by rubbing between the fingers, when a resinous odor will be developed.

Part used.— The pollen, to be gathered in August and September.

Form of preparation.— Trituration. Tincture by macerating in five parts of alcohol, two weeks; filtering.

LYCOPUS VIRGINICUS.

BUGLE WEED.

Indigenous to the United States, where it grows in moist, shaded situations. It is a bush about eighteen feet high, with a terebinthinate odor and a nauseous, bitter taste. The leaves are rough, purplish, and have a number of glandular dots on the under surface. The flowers are white, very small, and in dense, axillary whorls.

Part used.— The entire fresh plant.

Form of preparation.— Tincture made by macerating one part in two of alcohol, two weeks; filter.

MAGNESIUM CARBONICUM.

MAGNESIA ALBA. CARBONATE OF MAGNESIA.

$MgCO_3\ 3H_2O$

This exists in crystalline form imbedded in talc slate, and as a white

earthy mass. It is prepared by decomposing a saturated solution of sulphate of magnesium with carbonate of sodium, and the whole heated to the boiling point, stirring it frequently. Carbonate of magnesia is precipitated from the solution, and after careful washing is either calcined at red heat or forcibly compressed in wooden moulds, by which the magnesia is made to assume the form of a cube. It is white, soft to the touch, light or heavy, according to the strength of the solution used in preparing it, has little or no taste, no smell, and only slightly soluble in water.

Form of preparation.—Trituration.

MAGNESIUM MURIATICUM.

CHLORIDE OF MAGNESIA.

$MgCl_2$

Found in saline springs and the waters of the ocean, and artificially prepared by neutralizing two equal parts of hydrochloric acid, one with magnesia and the other with carbonate of ammonia, and then mixing both solutions. The mixture is then evaporated to dryness, and the residue exposed to a red heat in a porcelain crucible. Sal ammoniac is driven off and muriate of magnesia remains as a molten mass. By pouring this out upon a stone or marble surface, a hard, white mass soon forms. It is a white, deliquescent salt, has a bitter taste, and is soluble in alcohol or water.

Form of preparation.—Saturated solution in dilute alcohol for tincture. Must be kept in well stoppered bottles.

MAGNESIUM PHOSPHORICUM.

PHOSPHATE OF MAGNESIA.

$PO_4'Mg''H7H_2O$

A salt forming in small crystals when solutions of phosphate of soda and sulphate of magnesia are mixed and allowed to stand twenty-four to thirty-six hours. Filter. It exists in the cereals.

Form of preparation.—Trituration. May be transferred to dilutions after third decimal.

MAGNESIUM SULPHURICUM.

EPSOM SALTS. SULPHATE OF MAGNESIA.

$MgO,SO_3\ 7H_2O$

This salt was originally obtained by evaporating the water of saline springs at Epsom in England. It is also met with in the crystalline state in Switzerland, and in this country a deposit exists in a cave near Corydon, Indiana. It is a frequent ingredient of mineral springs, and is one of the constituents of sea water. A number of sources furnish it for commerce, the principal ones being the different salt

works and the mineral magnesite. Sulphate of magnesia is a colorless, transparent, odorless, efflorescent, soluble, crystalline salt, having a bitter, nauseous taste. For artificial preparation: To chloride of magnesia add dilute sulphuric acid and evaporate slowly to crystallization. Decant; wash crystals quickly in the jar or dish, and dry with slight heat.

Form of preparation.— Trituration. Saturated solution in water for tincture.

MAGNOLIA GLAUCA.

MAGNOLIA. BAY TREE.

Although met with in some of the northern states, it islittle more than a shrub, but in the southern states, particularly on wet, pine lands is where it reaches its greatest perfection. It is then a tree about thirty feet high, having a rich foliage, yellowish-green on the upper surface and pale green on the under. The flowers are large, solitary and cream colored, giving out a very fragrant odor. The fruit is about an inch long, and composed of cells, each of which contains a single scarlet seed. When fully ripe, the cells rupture and the seed partly escapes, being still connected by a fine thread with the parent cell. In South Carolina the tree is considered a preventive of malaria.

Part used.— The dried bark. The flowers.

Form of preparation.— Tincture made by macerating one part of the bark in five of alcohol, two weeks, and filtering. Tincture made by macerating one part of the flowers in five parts of alcohol, two weeks, and filtering.

MANCINELLA.

HIPPOMANES MANCINELLA.

A broadly branching tree, growing in Brazil, from twelve to fifteen feet high. The wood is white and covered with a grayish bark. The fruit round, pulpy and about five or six inches in diameter. The tree is considered very poisonous.

Parts used.— The fruit, leaves and bark.

Form of preparation.— Tincture made by macerating in two parts of alcohol, two weeks, and filtering. Trituration made from fresh leaves.

MADRAGORA OFFICINARUM.

MANDRAKE.

A European plant, having a root considered as resembling the human form, and about which have clustered a number of superstitions. The name of mandrake is also applied to the podophyllum

peltatum of this country from the same fancied resemblance. It is said to have been used by the ancients to produce anæsthesia.

Part used.—The root

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol.

MANGANESIUM ACETICUM.

ACETATE OF MANGANESE.

$Mn, 2C_2 H_3 O_2, 4H_2 O$

Prepared by saturating acetic acid with carbonate of manganese and evaporating, to crystallize. It is in the form of light, pinkish, rhomboidal crystals, having an astringent taste. Soluble in water.

Form of preparation.—Trituration. Saturated solution in dilute alcohol for tincture.

MANGANESIUM CARBONICUM.

CARBONATE OF MANGANESE.

$MnCO_3$

This is obtained by adding carbonate of ammonium to bichloride of manganese. By a double decomposition, carbonate of manganese is formed and precipitated, and the chloride of the alkali remains in solution. The precipitate is washed, dried and bottled. It is also procured by precipitation from a solution of sulphate of manganese by the addition of carbonate of sodium. It is a white or buff colored salt, unstable and insoluble, either in water or alcohol.

Form of preparation.—Trituration. May be transferred to dilutions after the sixth decimal.

MANGANESIUM MURIATICUM.

MANGANESE DICHLORIDE. CHLORIDE OF MANGANESE.

$MnCl_2$

The liquid remaining in the retort after the manufacture of chlorine yields this substance. This fluid, mainly composed of the mixed chlorides of manganese and iron, is filtered, evaporated to dryness and heated to dull redness. By this time the chloride of iron is either volatilized or changed into the insoluble sesquioxide, the manganese salt remaining unchanged. The resulting or grayish powder is then treated with water to dissolve the chloride of manganese, the solution filtered to separate it from oxide of iron, and then evaporated to crystallization. The crystals are tubular, pinkish, and soluble in water and alcohol. Alcohol reacts in solution and forms a new compound.

Form of preparation.—Trituration. Saturated solution in water for tincture.

MANGANESIUM OXIDUM NATIVUM.

PYROLUSITE. PEROXIDE OF MANGANESE. BLACK OXIDE OF MANGANESE. DEUTOXIDE OF MANGANESE.

MnO_2. (Mn_2O_3, MnO_3 =manganate of manganese).

This, the most common ore of manganese and known as pyrolusite, is most abundant in Bohemia, Saxony, Great Britain and Nova Scotia. In this country an inferior quality exists in Vermont. It is met with sometimes in needle-like crystals, sometimes in metallic masses, but commonly is a blackish, earthy deposit. It is present in the metallic form in some animal fluids and tissues. It may be prepared artificially by slowly calcining the nitrate of manganese.

Form of preparation.— Trituration. May be transferred to dilutions after the fifth decimal.

MATI.

PARAGUAY TEA.

This is a small, shrub-like tree, growing in various parts of South-America, and quite abundant along the streams of Paraguay, where it is also cultivated. The leaves contain the same principles as tea and coffee, and their collection is made for the beverage they afford. Large parties are formed each year to gather the leaves and prepare them for consumption, which is done by sun drying and powdering them. They have an aromatic odor and a bitter taste.

Part used.— The leaves.

Form of preparation.— Tincture made by macerating one part in five of alcohol, two weeks; filter.

MECONINUM.

MECONINE,

$C_{10}H_{10}O_4$

When opianic acid is heated with a solution of potash, two substances are produced, viz., a crystalline acid, called hemipinic acid, and a neutral, volatile substance, also crystallizable, known as meconine.

Form of preparation.— Trituration.

MEDUSA.

THE SEA NETTLE.

Part used.— The entire living animal, taken in summer, and cut in pieces.

Form of preparation.— Tincture made by macerating one part in five of alcohol.

MELASTOMA ACKERMANI.

Part used.— The fresh leaves.

Form of preparation.—Tincture made by macerating one part in two of alcohol, one week; filter.

MELILOTUS OFFICINALIS.

MELILOT.

Bears some resemblance to the Tonka bean.

Part used.—The flowers.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks; filter.

MENISPERMUM CANADENSE.

MOONSEED. GOLD THREAD.

An indigenous, climbing plant, growing in nearly all parts of the United States. The root or rhizome is long, yellow, and very bitter, and gives rise to a stem ranging from eight to twelve feet high. The flowers occur in clusters, are small and yellow. The fruit is round, black, about four lines in diameter, and resembles grapes. The seeds are crescentic in shape, and from this the plant derives its name.

Active principles.—Berberina. Menispermin.

Part used.—The fresh root.

Form of preparation.—Tincture, made by macerating in five parts of strong alcohol; filter; express residue and add extract to filtrate; filter.

MENTHA PIPERITA.

PEPPERMINT.

A plant of European extraction, growing in wet or moist situations. The root is long and creeping, sending up a purplish, hairy, channelled stem about two feet high. The flowers are small and purple. The herb has a penetrating, rather pleasant odor, and a pungent, somewhat camphorous taste, causing a cool sensation in the mouth when air is inhaled through it.

Active principles.—Menthene. (Sebacin, camphin). Piperic acid. Piperidin (piperylamin). Piperin. Oil of peppermint.

Part used.—The entire fresh plant.

Form of preparation.—Tincture, made by macerating one part in two of dilute alcohol two weeks; filter.

MENTHA PULEGIUM.

PENNYROYAL.

The pennyroyal in Europe is a very different plant from that growing in this country, and belongs to a separate genus. The European plant only, is officinal. It possesses a volatile oil.

Part used.--The plant.

Form of preparation.—Tincture.

MENYANTHES TRIFOLIATA.

BUCK BEAN. MARSH TREFOIL.

This plant is found both in Europe and this country in swamps, the margin of ponds, or where the surface is overflowed at times. It is chiefly found in this country from the St. Lawrence river on the north to the Potomac on the south. It has a matted, branching, dark colored root, descending deep into the soil, and about an inch thick. The leaves are bitter, especially in the autumn. The flower stalk is about ten inches high, rises above the leaves, and bears a cone-shaped cluster of rose-colored flowers. The fruit is a capsule separable in two halves and contains a number of seeds.

Active principles.—Menyanthin, (of Tromsdorf), an isomeron of inulin, dahlin, alantin, elecampin, helenine and datiscin !

Part used.--The whole plant in flower ; autumn.

Form of preparation.—Tincture, dark greenish-brown, very bitter ; made by expressing the juice from the plant, then adding an equal part of alcohol. By macerating in five parts of dilute alcohol two weeks, and filtering ; express residue, add extract to filtrate. Filter.

MEPHITES PUTORIUS.

THE SKUNK.

Part used.—The secretion.

Form of preparation.—Solution in water.

MERCURIALIS PERENNIS.

DOG'S MERCURY.

Part used.—The fresh plant, root and all, gathered when flowering in May.

Form of preparation.—Tincture, reddish brown color ; made by expressing the juice from the plant, then adding two thirds its weight of alcohol.

MERCURIUS ACETICUS.

SUBACETATE OF MERCURY. ACETATE OF MERCURY (Mercu*rous* acetate).

$Hg_2 O, C_4 H_3 O_2$.

Small, scaly crystals, nearly insoluble in cold water. Insoluble in alcohol. Unstable. Normal acetate (mercuric acetate) is the reverse of these properties. Formed by dissolving mercuric oxide in acetic acid to saturation, filtering and evaporating.

Form of preparation.--Trituration.

MERCURIUS BROMIDUM.

BROMIDE OF MERCURY.

HgBr.

This is formed by the addition of bromide of potassium to nitrate of protoxide of mercury, the salt falling as a white, curdy precipitate. Filter, wash and dry.

Form of preparation.—Trituration. May be transferred to dilutions after the fifth decimal.

MERCURIUS CORROSIVUS.

MERCURIC CHLORIDE. CORROSIVE SUBLIMATE. BICHLORIDE OF MERCURY.

$Hg''Cl_2$.

When mercury is boiled with sulphuric acid to dryness upon a sand-bath, a white mass remains. This is triturated when cold with chloride of sodium, and then subjected to sublimation. The sublimate is then fit for use, and is known as corrosive sublimate. It is in the form of crystals or white, crystalline masses, having an acid, metallic taste.

Form of preparation.—Trituration. Saturated solution in distilled water for tincture.

MERCURIUS CYANIDUS.

MERCURIUS CYANATUS. CYANIDE OF MERCURY. BICYANIDE OF MERCURY.

$Hg\ (CN)_2$

To obtain this salt, ferrocyanide of potassium and sulphate of mercury are boiled together for fifteen minutes, and filtered while hot to separate the iron. On cooling, the solution deposits crystals of cyanide of mercury which are white, opaque, odorless, and have a nauseous, metallic taste.

Form of preparation.—Trituration. Saturated solution in diluted alcohol for tincture.

MERCURIUS DULCIS.

MERCUROUS CHLORIDE. CALOMEL. MILD CHLORIDE OF MERCURY.

$Hg''_2\ Cl_2$.

Is made by boiling quicksilver with sulphuric acid and water on a sand-bath, until a dry mass is left. This when cold is rubbed with chloride of sodium and quicksilver, equal in quantity to that first employed. When the globules of the last portion of the metal have disappeared, the entire mixture is subjected to sublimation. The sublimate is then washed to dissolve out any remaining chloride until

the washings give no precipitate with aqua ammonia. The salt is then dried. This preparation differs from the corrosive chloride in that it contains but one equivalence of chlorine. It is a pale buff or white-colored substance, having neither taste or smell, blackens on exposure to light, and is insoluble in water.

Form of preparation.—Trituration. May be transferred to dilution.

MERCURIUS PROTOIDIDUS.

GREEN IODIDE OF MERCURY. IODIDE OF MERCURY. MERCURIUS IODATUS VIRIDIS.

HgI.

This is procured by adding a solution of iodide of potassium, to mercurous nitrate, the protoiodide of the metal being precipitated as a greenish-yellow powder. It is also obtained by triturating a mixture of iodine and mercury in a mortar, with absolute alcohol, until a paste is formed. It is then placed on a filter, washed with dilute alcohol, and dried in a dark room.

Form of preparation.—Trituration. May be transferred to dilution after the third decimal.

MERCURIUS BINIODIDUS.

RED IODIDE OF MERCURY. BINIODIDE OF MERCURY. MERCURIUS IODATUS RUBER.

HgI_2.

Biniodide of mercury is precipitated where corrosive chloride of mercury is dissolved in distilled water, and mixed with an aqueous solution of iodide of potassium. A double decomposition takes place by which chloride of potassium and the mercuric salt are formed. The precipitate is then washed and dried. It is at first yellow, then scarlet red in color, volatilizes by heat, is insoluble in water and alcohol, but soluble in ether.

Form of preparation.—Trituration. May be transferred to dilution after the fifth decimal.

MERCURIUS METHYLENUS.

METHIDE OF MERCURY.

$C_2 H_3 Hg$.

This is formed by the action of corrosive sublimate upon ethide of zinc, and also by the action of sodium amalgam upon iodide of ethyl when ether is present. It is a transparent liquid, and burns with a smoky light, giving off at the same time a mercurial vapor.

Form of preparation.—Solution in alcohol.

MERCURIUS NITRITUS.

NORMAL NITRATE OF MERCURY (neutral).

$Hg''(NO_3)_2 + 2Aq$.

To red oxide of mercury, add nitric acid in excess. Evaporate to a

syrup, and enclose with lime over a jar. The lime abstracts moisture, and the nitrate of mercury precipitates.

Form of preparation.— Saturated solution in water for tincture

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MERCURIUS PRECIPITATUS ALBUS.

DIMERCURAMMONIUM CHLORIDE. WHITE PRECIPITATE. AMMONIO-CHLORIDE OF MERCURY.

$HgCl+HgNH_2$.

Corrosive sublimate is dissolved in distilled water to which aqua ammonia is added. The precipitate thrown down is the ammonio-chloride of mercury, which is then heated, washed and dried. It is an opaque, white powder, insoluble in water, alcohol, or ether; has an earthy metallic taste, and is volatilized by heat.

Form of preparation.—Trituration. May be transferred to dilution after the fifth decimal.

MERCURIUS PRECIPITATUS RUBER.

RED PRECIPITATE. MONOXIDE OF MERCURY.

HgO.

This is manufactured in a number of ways. By dissolving metallic mercury in nitric acid and water, evaporating to dryness, triturating and heating in a shallow vessel until red fumes are no longer given off. Also by subjecting quicksilver to a temperature of 600°F. for several weeks; this is the red precipitate of the older chemists. It is of an orange red or brilliant red color, has a shining, scaly appearance and an acrid taste. Only slightly soluble in water and insoluble in alcohol and ether. It is sometimes adulterated with red lead, brick-dust, etc., but these may be detected by throwing a small quantity upon red hot iron by which the mercury will be volatilized, any residue is therefore an addition.

Form of preparation.—Trituration. May be transferred to dilutions after third decimal.

MERCURIUS SOLUBILIS HAHNEMANNIENSIS.

HAHNEMANN'S SOLUBLE MERCURY.

This indefinite compound is the nitrate of mercur*ous* ammonium and dinoxide of mercury, (sometimes called ammonio-subnitrate of mercury). It is one of the ammonio-mercurials whose generic name is now mercurosammonium. It is a velvety black powder, readily prepared without the tedious operations of an earlier day. Add slight excess of ammonia to mercur*ous* nitrate, washing and drying precipitate. As it is a mixture of two radicals its formulæ differ. Insoluble in water. Mercurous nitrate may be prepared by slowly dissolving quicksilver in cold nitric acid, crystallizing, washing on filter with alcohol.

Form of preparation.—Trituration. May be transferred to dilution after the fifth decimal.

MERCURIUS SULPHIDUM SULPHURATUS.

BLACK SULPHURET OF MERCURY. SULPHIDE OF MERCURY. ETHIOPS MINERAL.

$HgS+S$.

Formed by triturating together equal parts of mercury and sulphur until the metallic lustre of the quicksilver disappears. It is a heavy, insoluble, tasteless powder.

Form of preparation.—Trituration. May be transferred to dilutions after fifth decimal.

MERCURIUS SULPHOCYANIDUM.

SULPHOCYANIDE OF MERCURY.

$CyHg_2 S_2$.

Form of preparation.—Saturated solution in alcohol for tincture. Trituration.

MERCURIUS SULPHURICUS FLAVUS.

YELLOW SULPHATE OF MERCURY. TURPETH MINERAL.

$SO_4 3HgO$.

When this salt is desired sulphuric acid and mercury are boiled together upon a sand bath until a dry, white mass is left. It is then thrown into boiling water to remove the sulphate and afterward washed and dried. It is then a yellow powder having a somewhat acrid taste.

Form of preparation.—Trituration. May be transferred to dilution after the fifth decimal.

MERCURIUS VIVUS.

QUICKSILVER.

Hg.

This rarely exists in a metallic state, but almost entirely in the ore. The most important of these is the bisulphuret, or native cinnabar, and is mined in Spain, Italy, Austria, China, Mexico, Peru and California, the first and last named furnishing the greater amount of all produced. The ore is roasted in retorts constructed for the purpose, and the metal condensed in suitable receivers. It is shipped in wrought iron bottles each of which contains about seventy-five pounds of the metal. Quicksilver is a very mobile fluid having a silvery white color and brilliant lustre, without taste or smell, boiling at 662°F., and freezing at 39°F. below zero.

Form of preparation.—Trituration. The product of trituration is the gray oxide, the saccharate, and even other obscure compounds of mercury. Quicksilver globules exist in the lower attenuations.

METHYLENUM BICHLORIDUM.

DICHLOROMETHANE. BICHLORIDE OF METHYLENE. METHENE CHLORIDE. (PERCHLORIDE OF FORMYL.)

The base of this substance is methene. It is formed by the action of sunlight on methyl chloride. Formerly used for anæsthesia.

Form of administration.—By inhalation.

METHYL ETHER.

METHOXYL METHANE. METHYL-ETHYL ETHER. METHYL OXIDE. $C_2 H_6 O$.

This is a gaseous substance, prepared by mixing wood spirit, with concentrated sulphuric acid, and heating the mixture in a flask. The liquid blackens as the heat continues, and a gas is extricated, which is conducted through a solution of caustic potash, and collected over a mercurial trough. It dissolves in water, which takes up about thirty-three times its own volume, to which it communicates its taste and etherial odor. The gas burns with a pale flame.

Form of preparation.—Saturated solution in alcohol for tincture. Collect over close alcohol trough for saturation.

MEZEREUM.

DAPHNE MEZEREUM. SPURGE OLIVE.

This is a shrub about three or four feet high, and one of the earliest flowering plants. It is native to the hilly woods of northern Europe, Great Britain and Russian Asia, and is occasionally seen in gardens in this country. The leaves disposed at the ends of the branches are smooth and about two inches long. Before these are fully out the flowers make their appearance; they are red or rose-colored in one variety, white in another, occur in clusters and exhale a delightful odor. The fruit is an oval, yellow or scarlet berry, containing a single round seed. The bark is tough, pliable, and fibrous, easily separated from the wood, and has a sweetish, with an acrid after taste.

Active principles.— Daphnetin. Volatile oil and resin. (Daphnin).

Part used.—The bark gathered before flowering.

Form of preparation.—Tincture, made by macerating one part in two parts of dilute alcohol for two weeks, and filtering. Yellow-brownish, burning taste, like cantharides.

MIMOSA HUMILIS.

SENSITIVE PLANT OF SOUTH AMERICA.

This variety of the sensitive plant is peculiar to and grows upon the

prairies surrounding Rio Janeiro. The stem is yielding, woody, and covered with prickles. The flowers are violet in color and composed of small, silky tufts.

Part used.—The fresh leaves.

Form of preparation.—Tincture, made by macerating one part in two of dilute alcohol, two weeks, and filtering.

MITCHELLA REPENS.

CHECKER BERRY. PARTRIDGE BERRY.

An indigenous, trailing, evergreen plant, named after Dr. John Mitchell, and often seen creeping about the roots of trees, among bushes, etc., in dry woods and among hemlock timber. The leaves are heart-shaped, dark green, and marked with whitish lines. The flowers are white or reddish, and very fragrant. The fruit is a scarlet berry, pleasant to the taste, contain a number of stony seeds, and remain on the stem all winter. It should not be confounded with the wintergreen on account of a similar common name. Not analyzed ultimately.

Part used.—The recent plant.

Form of preparation.—Tincture made by macerating one part in two of dilute alcohol, one week. Filter.

MOMORDICA BALSAMIS.

BALSAM APPLE.

This climbing plant is a native of the East Indies, but cultivated in nearly all parts of this country. The stem is slender, and attaches itself to trees or trellis work by means of numerous tendrils. The flowers are large and pale yellow. The fruit is about the size of a goose egg, pointed at the ends, warty, and of a reddish or orange color. When ripe, this becomes detached by a slight touch, and falling, breaks into a number of pieces, scattering the seeds in all directions.

Part used.—The ripe fruit.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. By macerating in five parts of dilute alcohol, two weeks; filter.

MORPHINUM.

MORPHIA. MORPHINE.

$C_{17}H_{19}NO_3$

Treat infusion of opium with ammonia. Filter. Boil precipitate in ether. Filter. Precipitate is morphia. (2). To infusion of opium add acetate of lead in excess. Filter. Pass hydrogen sulphide gas

through filtrate. Warm gently. Filter. Add excess of ammonia. Filter. Treat with boiling water. Filter. Precipitate is morphia. Morphia, recrystallized from alcohol, is in the form of small, shining crystals, colorless, without odor, and very bitter. At an ordinary heat it becomes white, and melts at a higher temperature. It is somewhat soluble in alcohol, slightly so in ether, requires one thousand parts of water to dissolve it, and is inflammable in the air.

Form of preparation.— Trituration.

MORPHINUM ACETICUM.

ACETATE OF MORPHIA.

$C_{17}H_{19}NO_3, C_2 H_4 O_2$

This salt of morphia is prepared by mixing morphia with distilled water, to which acetic acid is added carefully and in small quantities, until the morphia is neutralized and dissolved. The solution is then evaporated upon a water bath until it has become of the consistence of syrup. On cooling it assumes the solid form, and is then dried at gentle heat and rubbed to powder.

MORPHINUM MURIATICUM.

CHLORIDE OF MORPHIA.

Suspend morphia in distilled water and carefully neutralize with dilute hydrochloric acid, dropping in a slight excess of the acid. Evaporate gently on a water bath, to crystallize.

Form of preparation.—Trituration. A saturated solution in alcohol for tincture.

MORPHINUM SULPHURICUM.

SULPHATE OF MORPHIA.

$C_{17}H_{19}NO_3\ SO_3$

To form this salt morphia is mixed with distilled water, and dilute sulphuric acid dropped in until reaction is complete, and the salt dissolved. Evaporation upon a water bath is then carried to such a degree that crystals will be deposited on cooling. The fluid portion is then drained off and the crystals dried on bibulous paper. These are small, white, and feathery, and soluble in twice their weight of water.

Form of preparation.— Trituration. Saturated solution in water for tincture, about 33 per cent. of the solution being sulphate of morphine. A little alcohol may be added to the solution.

MOSCHUS MOSCHIFERUS.

MUSK DEER.

This deer is a native of the mountainous districts of central Asia. It is about three feet in length and two in height, and though varying

somewhat in color, is generally of an iron gray. The fore legs are shorter than the hind ones, and the tail is quite short. Two long tusks in the upper jaw project downwards and serve to dig up the roots upon which the animal feeds. The musk is present in the male only, and is contained in a hairy sac, two or three inches long, situated between the umbilicus and prepuce. It is marked externally with a groove corresponding to the opening of the prepuce, smooth and corrugated internally, and contains about half an ounce of the secretion. It is received in the original sacs, the finest coming from Thibet and China. It is frequently adulterated.

Form of preparation.—Trituration. Tincture may be made with dilute alcohol 1-20.

MUREX PURPUREA.

A shell fish having a convolute shell striped with bands of different colors. Behind the head, and under the overlapping edge of the mantle, is a thick vein of yellowish-white, cream-like substance which stains an indelible color, that neither washing, light, time or chemical agents affect. The Tyrian dye, so famous at one time for the purples of temples and kings, was made from this substance.

Part used.—The inspissated liquid contained in a sac near the head or between the heart and liver.

Form of preparation.—Trituration.

MURIATICUM ACIDUM.

HYDROCHLORIC ACID. CHLORHYDRIC ACID. HYDROGEN CHLORIDE.

HCl.

Naturally, this acid is found as an ingredient of water in volcanic regions, and also in the water of the ocean in combination with sodium. Artificially prepared, it is really a strong, aqueous solution of the gas, and is obtained by distilling together chloride of sodium, sulphuric acid and distilled water. The disengaged gas is passed through wash bottles and collected in a receiver containing a certain amount of water, which after absorbing a certain proportion of the gas, becomes the officinal acid. When pure, it is transparent and colorless, has a sharp, acid taste, and gives off white, suffocating vapors. In combination with alcohol, ethers are formed by it. In combination with metals, the unoxidized metal takes the place of the hydrogen by substitution.

Form of preparation.—The acid of the sp. gr. 1.124 is considered a tincture for dilution, in water only.

MUSA SAPIENTIUM.

THE BANANA.

Part used.—The flowers.

Form of preparation.—Tincture.

MYGALE AVICULARIA.

BLACK CUBAN SPIDER.

Part used.— The entire living insect.

Form of preparation.— Tincture made by placing the insect in five times its weight of alcohol. Trituration of the insect with sugar of milk.

MYRICA CERIFERA.

BAYBERRY. WAX BERRY. WAX MYRTLE. CANDLEBERRY.

An indigenous, aromatic shrub, varying in height from two to eight feet, and growing on dry, sandy soils, along the Atlantic coast, from Nova Scotia to Florida, and on the shores of the great lakes. The leaves are oblong and shining, with resinous dots on both sides, and exhale a fragrant odor when rubbed. The fruit is a round, hard berry, and coated with a white wax that enters into commerce under the name of bayberry tallow. The bark of the root is bitter and pungent, somewhat astringent, with an acrimonious taste remaining.

Active principles.— Cerin (?). (Palmitate of myricyl). Palmetin. Palmitic acid (ethalic, cetylic, olidic acids). Lauric acid. (Laurin).

Part used.—The fresh bark.

Form of preparation.— Tincture made by macerating one part in two of alcohol. Etherial extract contains more wax. Strong decoction of plant may be added to two parts of alcoholic tincture for specially perfect tincture.

NABULUS ALBUS.

LIONS' FOOT. WHITE LETTUCE. RATTLESNAKE ROOT.

This plant prefers wooded or shaded situations, and is found from New England to the Mississippi, and southward to the Carolinas. The stem is purplish, sometimes spotted with the same color, and from two to four feet high. The radical leaves are deeply lobed, while the stem leaves are roundish, ovate and obtuse. The flowers are whitish, and in racemes, and the fruit or pappus is brown.

Part used.— The whole plant.

Form of preparation.—Tincture, made by macerating one part in two of alcohol, two weeks; filter.

NABULUS SERPENTARIA.

LION'S FOOT.

The general appearance of this plant is that of N. albus, but it has *purple* flowers, and grows in *low*, *moist* soils.

Part used.— The entire plant.

Form of preparation.— Tincture, by maceration one part in two of alcohol, two weeks; filter.

NAJA TRIPUDIANS.

COBRA DI CAPELLO.

This reptile varies in length from two to six feet, and is chiefly met with in Hindostan. The neck possesses the peculiarity of dilating to such an extent as to resemble a hood, whence the popular name. There is a mark on the neck resembling a pair of spectacles. The fangs are in front of the superior maxillary, and are channeled on the posterior surface, the venom sack being alone. The solid teeth behind the fangs are recurred.

Part used.— The virus.

Forms of preparation.— Ten drops of the poison with ninety drops of alcohol make the first decimal. Trituration made with sugar of milk.

NAPHTHALINUM.

NAPHTHALINE. HYDRIDE OF NAPHTHYL. (Kolbe).

A hydrocarbon obtained from the last portion of the distilled product of naphtha. This is allowed to stand, when a whitish crystalline substance is deposited. It is then sublimed and re-sublimed, and takes the form of white or colorless crystalline plates. These are soluble in alcohol and ether, insoluble in water, and burn with a smoky flame.

Form of preparation.—Trituration. Saturated solution in absolute alcohol, (1 to 4) for tincture; solution in four parts of ether for tincture. Solvents must not be mixed.

NARCISSUS POETICUS.

POET'S NARCISSUS.

A native of the south of Europe, this plant is scarcely a foot high, bearing a flower the crown of which is marked with circles of crimson, white and yellow.

Part used.—The bulbs.

Form of preparation.—Tincture by macerating in five parts of dilute alcohol two weeks; filter.

NARCEINUM.

NARCEIN.

$C_{23}H_{29}NO_9$.

This alkaloid is obtained from an aqueous extract of opium, and

crystallized from an alcoholic solution. It is in the form of white needle-shaped crystals, dissolves in water and alcohol, but not in ether. It has a bitter taste; comparatively. of slight importance, and sometimes entirely wanting in opium. It has been confounded with narcotine.

Form of preparation.—Trituration.

NARCOTINUM.

NARCOTINE (Opianin?)

$C_{22}H_{23}NO_7$.

This principle of opium is obtained by boiling that drug with dilute acetic acid, and filtering. Narcotine is then precipitated from the filtrate, and filtered again by the addition of ammonia, and purified by dissolving it in hot alcohol, filtering through animal charcoal, and crystallizing. It is also separated from the precipitated morphine and narcotine, by the addition of ether to the precipitate as in the morphia formula, p. 186. It is then in lustrous, white, silky needles soluble in alcohol and ether, and insoluble in water.

Form of preparation.—Trituration. Tincture, by a saturated solution in absolute alcohol. (Dissolves in sixty parts of cold, and twelve of boiling absolute alcohol—R. Brandes).

NATRUM ARSENICUM.

NATRUM ARSENICATUM. NATRUM ARSENICUM. ARSENIATE OF SODIUM. (With arsen*ic* acid).

$Na_3\ AsO_4\ 12H_2\ O$.

Arsenious acid and nitrate of sodium are reduced to fine powder, intimately mixed and exposed to red heat in a covered crucible until complete fusion has taken place, after which it is poured upon a stone slab to solidify. When this has taken place, it is dissolved in boiling water, filtered and allowed to crystallize as arseniate of sodium. The arsenious acid becomes arsenic acid at expense of the nitric acid. Another method is by supersaturating a solution of arsenic acid with carbonate of sodium, and crystallizing by evaporation. The crystals of this salt are colorless and transparent, and have a saline taste, Soluble in four parts of water.

Form of preparation.—Trituration.

NATRUM ARSENITUM.

ARSENITE OF SODA. ARSENITE OF SODIUM. NATRUM ARSENICOSUM. (With arsenious acid).

To solution of bicarbonate of soda add powdered (glassy) arsenious acid as long as effervescence takes place. At the close of the effervescence, apply gentle heat. Evaporate to dryness on sand bath. Soluble in water.

Form of preparation.—Trituration.

NATRUM BORACICUM.

BORATE OF SODA.

$2(Bo_2\ NaB_2\ O_3,\ 10H_2\ O.$

A mineral occurring native in Peru, Ecquador, China, and some parts of Europe. It is also found in Thibet and Persia, where the spontaneous evaporation of certain lakes allow it to crystallize upon their borders. It is in the form of greasy, crystalline masses, sometimes colorless, sometimes yellowish or greenish. To fit it for commerce, the contained soapy matters and foreign salts are removed, and then is a colorless, crystalline substance, with a sweetish, somewhat alkaline taste, and it becomes covered with a white powder on exposure to the air. A strong infusion of borax has the property of checking the alcoholic fermentation by destroying the organisms that constitute the ferment.

Form of preparation.—Trituration. Saturated solution in water for dilution. Saturated solution compared with first decimal trituration.

NATRUM BROMIDUM.

BROMIDE OF SODIUM. SODIUM BROMIDE. NATRUM BROMATUM.

NaBr.

Soluble in alcohol, (dilute), and water.

Form of preparation.—Trituration

NATRUM CARBONICUM.

CARBONATE OF SODIUM.

$Na_2\ CO_3\ 10H_2\ O.$

A large amount of this salt is produced by the natural evaporation of the waters of the Natron lakes in Egypt. Another of these lakes is contained in the territory of Nizam in Hindostan, and several exist in central Africa. In Hungary there are deposits of this substance in the beds of ancient lakes. It is procured in an impure state from the ashes of seaweeds, and also from the mineral cryolite and common salt. Very soluble in water.

Form of preparation.—Trituration.

NATRUM IODIDUM,

SODIUM IODIDE. IODIDE OF SODIUM. NATRUM IODATUM.

NaI.

By saturating a solution of caustic soda with iodine and crystallizing, the iodide of sodium is found. It may also be obtained by the double decomposition of iodide of iron and carbonate of sodium in solution, and afterward crystallized.

Form of preparation.—Trituration. Saturated solution in dilute alcohol for tincture. If the second process is used, filter with care before evaporating.

NATRUM MURIATICUM.

SODIUM CHLORIDE. CHLORIDE OF SODIUM. MURIATE OF SODA. COMMON SALT.

NaCl.

This is the salt of commerce, and found in great quantities in all parts of the world. It exists in large proportions in sea water, salt lakes and salt springs, and occurs in enormous beds in Poland, Russia, Hungary, Spain, St. Domingo, England, Peru, and in this country, Nevada, Kentucky, West Virginia, and an island off the coast of Louisiana. It is too well known to need description.

Form of preparation.—Trituration. Saturated solution in water for tincture, (100 parts of water dissolve thirty-six of salt).

NATRUM NITRICUM.

NITRATE OF SODIUM.

$NaNO_3$.

This is found in large quantities in northern Peru, and the province of Bahia in Brazil. When pure it is a white salt, having a sharp, cool, bitter taste. It is used for the manufacture of nitric acid, and by a series of processes, in the production of nitrate of potassium.

Form of preparation.— Trituration. Saturated solution in water for tincture.

NATRUM PHOSPHORICUM.

PHOSPHATE OF SODIUM.

$Na_2\,HPO_4 + 12H_2O$.

This, the common tribasic phosphate is obtained by mixing acid calcium phosphate from bone ash, with sulphuric acid and water, allowing it to digest for several days. At the end of that time it is strained through a cloth, the fluid portion concentrated by evaporation, and a solution of carbonate of soda added in excess. It is again filtered and allowed to crystallize.

Form of preparation.—Trituration. Solution in four parts of water for tincture.

NATRUM SALICYLICUM.*

Form of preparation.—Trituration. Saturated solution in water for tincture.

*There are a large number of salicyl*ates* and *ites*, quite all of them having medical properties.

NATRUM SULPHOVINICUM.

$C_2 H_5 KSO_4 + 2H_2 O.$

Form of preparation.—

NATRUM SULPHITUM.

NATRUM SULPHURATUM SULPHITE OF SODIUM.

$NaOSO_2 + 3HO.$

Prepared by conducting sulphurous acid into a solution of carbonate of sodium, and evaporating without contact of the air. It is a white, crystalline, efflorescent salt, having a sulphurous taste and soluble in water. It should be kept in closely stopped bottles as it changes into the *sulphate* on exposure to the atmosphere. It was at one time obtained from lapis lazuli, and is one of the ingredients of ultramarine.

Form of preparation.—Trituration. Saturated solution in water for tincture, (about one to four).

NATRUM SULPHURICUM.

GLAUBER SALTS. SULPHATE OF SODIUM.

$NaO,SO_3 + 10Aq.$

A salt existing in the water of many mineral springs, and the ocean. A large deposit is found in the Caucasus in the neighborhood of Tiflis and in this country, pools of water containing it in such abundance that it crystallizes on the surface during the summer, are to be seen in the territory between Santa Fe and the head waters of the Arkansas river. Sulphate of sodium is in six sided, colorless crystals, transparent when recent, but in time are covered with a white powder. It is very efflorescent, and is soluble in water, insoluble in alcohol.

Form of preparation.—Trituration. Saturated solution in water for tincture. (100 parts of water dissolves forty parts of the salt).

NICCOLUM.

NICKEL.

Ni.

A white, malleable metal occurring in some of the ores mined in Hungary and Sweden.

Form of preparation.— Trituration of filings.

NICCOLUM CARBONICUM.

CARBONATE OF NICKEL.

$NiCo_3.$

Obtained by mixing the sulphate or chloride of nickel with car-

bonate of sodium, and treating the precipitate in the usual way. It is a pale green salt, insoluble in neutral solvents.

Form of preparation.—Trituration. May be transferred to dilutions after the fifth decimal.

NICCOLUM SULPHURICUM.

SULPHATE OF NICKEL.

$Ni, SO_4 + 7H_2O$.

Hydrated sulphate of nickel is an efflorescent salt made by dissolving nickel in the dilute acid. One part dissolves in two parts of water. The pure precipitated salt may be obtained by addition of alcohol to original aqueous solution, and filtering.

Form of preparation.—Trituration. Saturated solution in water for tincture.

NICOTINUM.

NICOTINE. NICOTIA.

$C_{20}H_{14}N_2$,

This, the active principle of tobacco, is a colorless, inflammable, irritating, volatile liquid, having the odor of tobacco when heated, and a burning, acrid taste. It forms deliquescent salts with the acids, soluble in water, alcohol and ether, is exceedingly fatal to life even in very small doses. It is obtained by distilling tobacco with caustic soda, the distillate passed into a receiver containing sulphuric acid diluted with water. This is evaporated, filtered, an excess of caustic soda added, and the whole once more distilled. The product is a clear, colorless liquid, and is the pure nicotine. Very hygroscopic.

Form of preparation.—Solution (1-9 or 1-99) for dilutions. Trituration.

NIGELLA SATIVA.

NUTMEG FLOWER. SMALL FENNEL FLOWER.

This is a small plant growing in Syria and the south of Europe, but is also cultivated in different localities. The seeds are three-cornered, having two sides flattened, and the remaining one convex, about a line in length, externally black or brown, internally white and oily, has an odor like nutmegs, and a warm, spicy taste.

Part used.—The seeds.

Form of preparation.—Tincture made by macerating one part in five of alcohol two weeks; filter.

NITRI DULCIS SPIRITUS.

SWEET SPIRITS OF NITRE.

See Ether nitricum.

NITRICUM ACIDUM.

HYDROGEN NITRATE. AQUA FORTIS.

$NO_3(H)$

An acid procured from mixing equal parts of nitrate of potassium and sulpuric acid and distilling. As soon as this commences, red fumes arise, disappearing after a time, but reappearing toward the close of the process. Sometimes nitrate of sodium is substituted for the potassium salt. Nitric acid is a straw-colored, fuming, exceedingly corrosive liquid, staining the skin and other organic textures a straw-yellow color, and forming nitrates in combination with bases. All nitrates are soluble in water. In medicine, the colorless acid, (redistilled with sulphuric acid) of specific gravity 1.517 should be used. Dilute with water until after the third decimal.

NITRO-HYDROCHLORICUM ACIDUM.

NITRO-MURIATIC ACID. CHLORO-NITRIC ACID. AQUA REGIA.

$NOCl_2 + NCl$.

This compound is formed when nitric and hydrochloric acids are mixed in the proportion of one of the former to a little more than two of the latter, and heated. Reaction has not taken place until a change of color occurs. This is known as aqua regia, or water of gold, since it has the property of dissolving that metal with combination. The chlorine alone combines. It has a yellow color and a chlorinous odor; readily decomposes. It is also a solvent for the noble metals forming chlorides.

Form of preparation.—Solution in distilled water 1-9 or 1-99.

NITROGENIUM OXIDUM.

NITROGENIUM OXIGENISATUM. LAUGHING GAS. NITROUS OXIDE. PROTOXIDE OF NITROGEN.

NO

This gas is obtained by heating solid nitrate of ammonium in a retort and collecting it over the pneumatic trough, or through Woulff's bottles, and thence into a gasometer. It is a colorless gas, almost inodorous, possessing a sweetish taste and readily soluble in cold water. It was first brought into notice in 1800, by Sir Humphrey Davy, and is now used for temporary anæsthesia.

Form of preparation.—Water absorbs 80 per cent. of its volume.

NUPHAR LUTEA.

YELLOW POND LILY. SPATTER DOCK.

A water lily found in all parts of this country, inhabiting sluggish streams and ponds. The leaves are large and dark green, smooth and shining on their upper side, paler and slimy on the under, and float

upon the surface of the water. The flowers are yellow, small, round, and rise two or three inches above the level of the water. The rhizome is large, creeping, and has very extensive attachments.

Part used.— The fresh plant.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol, or by macerating in five parts of alcohol for two weeks; filter.

NUX MOSCHATA.

MYRISTICA OFFICINALIS. NUTMEG. NUX MYRISTICA.

A tree, native in the Molucca Islands, but cultivated in the East Indies and some parts of the West Indies. It is about thirty feet high, branching, and somewhat resembling an orange tree. The leaves are bright and glossy on their upper, but white on their under surface. The flowers on the trees bearing male flowers only, are clustered, while those on the trees bearing female flowers are single. The fruit is about the size of a peach, yellow, and contains a nut, surrounded with a reddish, membranous covering, known as mace. The kernel within the nut is the nutmeg. This is roundish or oval, furrowed, hard, pungent, and aromatic, and when cut or broken, presents a reddish or yellowish, marbled appearance.

Part used.— The powdered nutmeg.

Form of preparation.— Tincture made by macerating one part in five of alcohol, two weeks, and filtering; yellow color. Trituration.

NUX VOMICA.

POISON NUT. STRYCHNIOS. NUX VOMICA.

This tree is met with on the Coromandel coast, the East Indies, China, Ceylon, and various Asiatic localities. It is provided with long, lithe branches, smooth, shining leaves, and white terminal, clustered, funnel-shaped flowers. The fruit is smooth, yellow, covered with a hard, brittle rind and contains a juicy pulp in which are imbedded a number of flat, concavo-convex seeds, covered with gray or yellowish gray hairs, having a very bitter taste. The bark is smooth, dark grey, and is considered to be the source of the false angustura bark.

Active principles.—Strychnia. Brucia (brucin, vomicin, caniramin.) Igasurin. Igasuric acid.

Part used.— The pulverized seed. Seeds must be cut in thin slices, slightly dried, then pulverized.

Form of preparation.— Tincture made by macerating one part in five of alcohol, two weeks; filter. Trituration.

NYMPHÆA ODORATA.

WHITE POND LILY. SWEET WATER LILY.

A lily chiefly found in ponds and sluggish streams, from the Rocky

Mountains eastward. The rhizoma is long, spongy, several inches in thickness. The kidney-shaped leaves, five or six inches in diameter, are deeply cleft at the base, dark, shining-green in color, and float on the surface of the water. The flowers are large, white, fragrant, and sometimes tinged with purple.

Part used.—The root.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol. Also by macerating in dilute alcohol, two weeks, and filtering.

OCIMUM CANUM.

A Brazilian plant, rising sixteen or twenty inches high, with a quadrangular, grooved stem. The leaves are finely serrated, and the flowers are in whorls, forming long spikes. The root is large and fibrous.

Part used.— The leaves.

Form of preparation.— Tincture, by macerating two weeks in five parts of dilute alcohol, and filtering. Trituration.

ŒNANTHE CROCATA.

WATER DROPWORT. DROP WATER.

A tuberous plant, about three or four feet high, and inhabiting swampy lands from Michigan to the Gulf. The stem is firm, smooth, freely branching. The leaves vary in shape on the same tree. The flowers are white. The fruit is marked with greenish ribs, is "corky," and contains a purplish juice. The root is fibrous, to which a number of elongated tubes are attached. The root and stem contain a juice that becomes yellow on exposure to the air.

Part used.—The fresh root gathered in June and August.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol. Color, yellow-green.

ŒNOTHERA BIENNIS.

EVENING PRIMROSE.

This hairy, herb-like plant is common in all parts of Europe and this country, growing to a height of three, four, or five feet. The flowers open only at nightfall, and last but a single day.

Part used.—The whole plant.

Form of preparation.— Tincture made by macerating one part in five parts of dilute alcohol, two weeks, and filtering.

OLEANDER.

NEREUM OLEANDER. ROSE LAUREL. COMMON ROSEBAY.

A native of southern Europe, Palestine, and the levant, this ever-

green has become quite familiar in conservatories, both in this country and the colder parts of Europe. The stem is heavy, rising to a height of four to twenty feet, and sends out numerous branches covered with long, lanceolate leaves arranged in threes. The terminal flowers are large, rose-colored.

Part used.—The leaves.

Form of preparation.— Tincture made by expressing the juice, then adding two-thirds its weight of alcohol. Also by macerating in five parts of alcohol, two weeks, and filtering.

OLEUM ANIMALE.

DIPPEL'S OIL.

During the destructive distillation of bones for ammoniacal products, this oil becomes separated from the gelatinous tissue of the bones. Formerly it was procured from hart's horn, and in the same way. When recently obtained it has a dark brown, almost black color, and an unpleasant, somewhat ammoniacal smell. It requires to be redistilled four or five times, when it becomes a colorless, limpid liquid, changing, however, on exposure to light, passing through the intermediate shades to black, at the same time assuming a thicker consistence.

Form of preparation. The first three attenuations by trituration.

OLEUM JECORIS ASELLI.

OLEUM MORRHUÆ. COD LIVER OIL.

The cod fish from which the oil is procured is principally found in the waters of the north Atlantic, along the New England and Newfoundland coasts, in this country, and the coast of Norway in Europe. The liver is the only part that yields the oil. These are first boiled or steamed, and then strained. This is known as *shore oil*, and by far the purer article. Another m ethod consists in placing the livers in a barrel exposed to the heat of th e sun, and drawing off the oil as it separates from the organ ; this is *straits oil*. The contents of the casks, *i. e.*, oil that has not been removed, together with the putrefied livers, are boiled when the vessel lands, and the oil collected from this source called *banks oil*. Pure oil is about the consistence of lamp oil, pale yellow, or slightly brownish, and should respond to the tests for bile. Haddock, shark, and train oils have been fraudulently substituted for cod liver oil.

Form of preparation.—Trituration with sugar of milk. Dilutions may be used after the fifth decimal.

OLEUM SANTALUM.

OIL OF SANDAL-WOOD. SAUNDERS.

This oil is obtained from different species of santalum, a tree growing in the East Indies, the South Pacific islands and South America.

Soluble in alcohol. Sandal wood also contains santalic acid or santalina.

Form of preparation.--Dilutions in alcohol.

ONISCUS ASELLUS.

THE ARMADILLO. COMMON WOOD LOUSE.

Part used.—The entire living animal.

Form of preparation.—Tincture.

OPIUM.

PAPAVER SOMNIFERUM. POPPY. WHITE POPPY. (LAUDANUM, the tincture).

This is the inspissated juice of the capsules of the papaver somniferum, a plant native in Asia and southern Europe. It is occasionally seen in some parts of central Europe, England, and in this country. Its cultivation is chiefly confined to Turkey, Persia, Egypt and India. The white poppy is from two to three feet high, with large lobed, deeply divided leaves. The flowers are terminal and white or silver-gray. The fruit or capsule is rounded, and from two to four inches in diameter, and although all parts of the plant abound with a milky juice, the virtues are confined to the capsule. The seeds have no toxic properties, and are even used for food. At a certain season the poppy heads are incised, and the juice exuding in tears allowed to dry. After a time, these are scraped off and the granular jelly, beaten and moistened with saliva, is reduced to a uniform mass. The loaves are then wrapped in leaves and exported.

Form of preparation.—Tincture made by macerating one part of powdered opium in five of dilute alcohol for two weeks; filter.

Opium is very rich in proximate principles. The most important are:

1. MORPHIA, and its salts. (See p. 186), and paramorphia. Paramorphia is called thebaine by some chemists.

2. NARCOTINUM, (p. 191), and its salts. This has been called opianin, but the latter is a different principle. See Propylamine. Metacetamine.

3. NARCEIN, (p. 190) and its salts.

4 PAPAVERINA, and its salts, the muriate of which is soluble. It is prepared by precipitating infusion of opium by soda, filtering, dissolving in alcohol, evaporating to dryness, dissolving residue in dilute hydrochloric acid, filtering, precipitating again by ammonia, dissolving again in hydrochloric acid, adding acetate of soda, filtering, washing on filter with boiling ether. The alkaloid separates on cooling.

5. CODEIN, (see p. 108) and its salts. It is isomeric with pelosin and cissampelin.

6. Opiana. (Opianin).

9. Meconin, (p. 178) and meconic acid.

0. Pseudomorphia.

11. Extractives, many of them peculiar to opium.

The medicinal action of some of these is widely different from opium itself.

Laudanum is a variable tincture of opium.

OPOPONAX CHIRONIUM.

PASTINICA. ROUGH PARSNIP.

A plant with a thick, yellow, fleshy root, and a strong, branching stem, ranging from four to eight feet high. The flowers are small, yellow, and disposed in terminal umbels. It is a native of the levant, and also grows wild in southern France, Italy, and Greece, but that of the warmer latitudes only is efficacious. On wounding the stem a juice is exuded, hardening into tears or irregular masses of a reddish-yellow color, with an unpleasant, strong odor, and a bitter, acrid taste.

Part used.— The resin.

Form of preparation.— Tincture made by macerating one part in five of alcohol, two weeks; filter.

OPUNTIA VULGARIS.

CACTUS OPUNTIA. PRICKLY PEAR.

This is a creeping, fleshy species of cactus, usually found in rocky, sandy places. The leaves or articulated branches spring from the tip or sides of each other, and are covered with numerous yellow spines or prickles. The flowers make their appearance at the edge of the joints, and are large and yellow. The fruit is smooth and crimson.

Parts used.— The flowers and stems.

Form of preparation.— Tincture made by macerating one part with two of dilute alcohol, two weeks; filter.

ORIGANUM MARJORANA.

SWEET MARJORAM.

Although native only in Portugal and Andalusia, this plant is met with in all countries, being cultivated both as an ornament and a garden herb. It is about a foot high, with oval, hoary leaves, and pink colored flowers clustered upon a spike at the end of the branches. The whole plant is soft, downy, has an aromatic odor, a warm, bitter, taste, and is much employed for culinary purposes.

Part used.— The plant when in flower.

Form of preparation.— Tincture made by macerating one part in two of alcohol, two weeks; filter.

OSMIUM.

Os.

This metal is obtained from the tetraoxide by condensing its vapor in potash, mixing with hydrochloric acid in excess, digesting with mercury, to form an amalgam. This is distilled in a stream of hydrogen to expel the mercury, osmium remaining in the form of a black powder. When in fine powder it is combustible; in the compact form it has a metallic lustre.

Form of preparation.— Trituration of the powder.

OSTRYA VIRGINICA.

IRONWOOD. LEVERWOOD. HOP HORNBEAM.

A tree found in all parts of the United States, and about twenty-five or thirtv feet high. The width of the leaves is about twice their length. The fruit resembles hops, is placed at the ends of the branches, and the sacs, or cups, each contain a flower. The wood is white and hard.

Part used.—The heart wood.

Form of preparation.—Tincture made by macerating one part of the chips or shavings in five of alcohol, two weeks and filter.

OXALIC ACID.

$C_2 H_2 O_4$ (Essential salt of lemons).

An acid present in the tissue of various plants in combination with potassium and lime. In combination with lime it constitutes a variety of calculus in the bladder. When freed from all extraneous matters it is a crystalline salt, usually in long, colorless, flattened crystals. having an acrid taste, freely dissolving in water, but in a lesser degree in alcohol. To 4 parts of sugar add 24 parts officinal nitric acid. Heat until fumes of nitric oxide cease. Cool, and remove crystals of oxalic acid. Evaporation, one-half, will cause farther crystalization.

Form of preparation.— Trituration. Saturated solution in dilute alcohol for tincture.

PÆONIA OFFICINALIS.

PEONY.

This familiar plant is said to be a native of Switzerland, and is of frequent occurrence in the flower garden everywhere. The root is odorous, and about the thickness of a thumb, sending out spindle-shaped tubers that taper into thread-like fibres. The stem is erect and herbaceous, with variously incised leaflets. The flowers are large, red, pink or flesh-colored. The fruit is downy and nearly straight.

Part used.— The root, dug in the spring.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol. Readily decomposes on being exposed to the light. Beautiful red color.

PALLADIUM.

Pd.

A metal usually found associated with platina, and obtained by neutralizing with carbonate of soda a solution from which platinum has been precipitated, mixing with this a solution of cyanide of mercury. Cyanide of palladium is thrown down as a whitish precipitate, which after washing, filtering, drying and heating to redness, becomes a spongy metal, capable of being welded into a compact mass. It is a white, malleable, ductile metal.

Form of preparation.—Trituration of the spongy metal.

PASSIFLORA INCARNATA.

WHITE PASSION FLOWER.

This plant is found from Virginia southward to Florida. It is a climber, with a stem twenty or thirty feet long, with deeply three-lobed leaves. The petals are white, with two outer rows of purple filaments, and an inner row of flesh-colored filaments. The berry is about the size of an apple, and of a pale yellow color.

Part used.—

Form of preparation.—Tincture, by macerating in five parts of dilute alcohol for one week; filter.

PANACEA.

AGOUGE DOS POBRES. MERCURY OF THE POOR.

A plant growing in Brazil, where it is used as a domestic remedy for a great number of diseases, but of which we have no reliable description.

Part used.—

Form of preparation.—

PAREIRA BRAVA.

This is a native of South America and the West Indies. The stems are slender, shrub-like, and twining, with roundish, indented leaves, furnished with soft hair upon their under surface, and supported by downy, leafy stalks, inserted into the back of the leaf. The flowers are small and disposed in long racemes. The root is received in pieces varying from a few inches to two feet in length, and from one to three inches thick, and covered with a thin, grayish-brown bark. The surface is wrinkled, and in some instances knotty. There is no

odor, but it possesses a sweetish, nauseous, bitter taste. A yellow, bitter principle, cissampaline has been indentified.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks, and filtering.

PARIS QUADRIFOLIA.

HERB PARIS. TRUE LOVE.

A plant of European growth, usually inhabiting wet woods and thickets, and reaching but a few inches in height. The stem is upright and simple, with four leaves at the summit arranged in the form of a cross. The flowers are single and yellowish-green The fruit or berry is quadrangular, four celled, and of a shining, deep blue; these together with the leaves, have a disagreeable odor. The root is vertical, jointed, fleshy and whitish.

Active principles.—Paradin (paricin). Extractives.

Part used.—The whole plant, root and all, when in bloom; April to June.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Also by macerating one week in dilute alcohol. Filter.

PASTINACA SATIVA.

WILD PARSNIP.

This plant grows wild in fields and along fences, and is about three feet high. The stem is furrowed and branching, with pinnate, downy leaves, the upper leaflet being three-lobed. The flowers are small, yellow, and disposed in umbels, and the fruit is large and flat. The root is smaller and harder than the cultivated one, is fusiform in shape, and has a hot, acrid taste. During the second year the root acquires poisonous properties.

Part used.—The root gathered in the autumn of the second year.

Form of preparation.—Tincture, by macerating in five parts of dilute alcohol, two weeks, and filtering.

PAULLINIA PINNATA.

A plant quite frequent in the woods of Brazil. Said to be the same as P. sorbilis.

Part used.—The root.

Form of preparation.—Tincture, by macerating in five parts of alcohol, two weeks; filter. Trituration.

PAULLINIA SORBILIS.

GUARANA. BRAZILIAN COCOA.

This climbing shrub is a native of Brazil, the seeds of which are

bruised, mixed with water, kneaded into a paste, and allowed to harden. It then presents the appearance of cylindrical or roundish masses, of a reddish-brown color, a roughened surface externally, and marbled internally. The taste and odor are similar to chocolate, but it lacks the oily nature of the latter. Chemical analysis reveals the presence of caffein in larger proportion than in any other plant.

Part used.—The seeds.

Form of preparation.—Trituration. Tincture made by macerating one part of the seeds in five of dilute alcohol, two weeks, and filtering.

PENTHORUM SEDOIDES.

VIRGINIA STONECROP.

An indigenous plant, common in Canada and the United States, and generally found in moist localities. The stem varies from ten to sixteen inches high, branching slightly and angularly. The leaves are two or three inches long, almost directly from the branches, acute at each end, and unequally serrated. The flowers are odorless, pale, yellowish-green, and disposed in racemes.

Part used.—The whole plant.

Form of preparation.—Tincture, macerating in five parts of alcohol, two weeks. Filter.

PERSICA VULGARIS.

PEACH.

Originally from Persia, this tree retains the name of its nativity in the different countries where it has been introduced. It varies in height from eight to fifteen feet, is much branching with acutely serrated leaves, three or four inches long. The flowers are solitary, rose-colored, appear before the leaves, and have the odor of prussic acid. The fruit or drupe is fleshy, one or more inches in diameter, and contains a single seed, in which is enclosed an almond-shaped kernel.

Active principles.—Amygdalin. Hydrocyanic acid.

Part used.—The fresh flowers.

Form of preparation.—Tincture, by macerating in five parts of dilute alcohol, one week. Filter.

PEPSIN.

Under this name a number of articles are prepared by scraping the gastric mucous membrane of the recently killed pig, calf or sheep, simply drying the viscid pulp thus obtained, or precipitating and drying, or, by macerating the chopped stomach, skimming off the floating pepsin and drying by pressure. Soluble in water from which it is precipitated by alcohol. Hence it may be prepared pure by

macerating as before, straining, precipitating with alcohol, filtering, and drying, Saccharated pepsin is made by adding sugar of milk until a powder is formed.

PETIVERIA TETANDRA.

This bush is frequent in Brazil, where it blossoms the entire year, the flowers being arranged on long, terminal spikes. The branching, fibrous roots have an odor like garlic.

Part used.— The root; to be triturated when fresh.

Form of preparation.— Tincture.

PETROLEUM.

ROCK OIL.

This is a thin, light, yellow oil, made from commercial petroleum by treating it with sulphuric acid, and then rectifying that portion upon which the acid has not acted. Petroleum exists in various parts of the world in wells and overflowing springs, sometimes floating on the surface of streams to a considerable area. It is supposed to have been produced by the action of subterranean heat upon ancient deposits of sea weed, as it contains principles that abound in sea weeds, but are absent in land plants. It is chiefly procured by boring wells until a collection is reached. The Rangoon petroleum is to be preferred.

Form of preparation.—Trituration, (?). Solution in alcohol.

PETROSELINUM SATIVUM.

PARSLEY.

The home of this plant is in Sardinia, Greece, and other parts of southern Europe, but it has been introduced into all parts of Europe and this country. It has a jointed, furrowed, branching stem, about two feet high, with compound, radical leaves, composed of three-lobed leaflets. The stem leaflets are slender. The flowers are small, pale yellow, and disposed in umbels. The seeds are half fruit, plano-convex, small, ridged, and dark green.

Part used.— The plant gathered when in flower.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol.

PHALLUS IMPUDICUS.

A FUNGUS.

Part used.— The whole fungus.

Form of preparation.—Tincture.

PHASEOLUS VULGARIS.

KIDNEY BEAN.

This was first introduced from the East Indies, and is largely culti-

vated for edible purposes. It is a twining plant, with sharp, ovate leaves, and reaches a height of five or eight feet. The flowers are usually white, and the fruit is a pod or legume several inches long, containing white, sometimes brightly colored, reniform seeds or beans.

Part used.—The dried seeds.

Form of preparation.— Trituration.

PHELLANDRIUM AQUATICUM.

WATER FENNEL.

This plant, also known as the "fine-leaved water drop-wort," is found in swamps, ditches, and other low, wet localities, in various parts of Europe, Russian Asia and Great Britain. The stem is either erect, trailing, or floating, according to the locality in which it grows. Its leaves have a reputation of poisoning cattle that eat them. They are lobed, but if growing under water, are exceedingly long and narrow. The flowers are white, axillary, and disposed in umbels. The fruit is in the form of ovoid grains, resemble anise seed, are greenish-yellow, and have a strong, pungent odor. hey are similar to the Sium latifolium, also a water loving plant.

Part used.—The seeds.

Form of preparation.—Tincture made by macerating one part in five of alcohol for two weeks. Filter. Color, light brown.

PHOSPHORUS.

P

A wax-like substance, usually colorless, sometimes yellowish or pinkish, flexible, insoluble in water, slightly soluble in oils, luminous in the dark, gives off white fumes when exposed to the air, and is very inflammable. Combined with oxygen, lime and soda, it is present in several important structures of the body, particularly the brain, and osseous structure. In the form of phosphoric acid, it exists in combination in various unstratified rocks. It is now obtained from bones, but at one time was procured from putrid urine.

Form of preparation.—Solution and dilutions made : 1. By heating absolute alcohol containing an excess of phosphorus, in a water bath, and after the phosphorus liquifies, diffuse through the alcohol by constant shaking. Decant when cool. Do not let evaporation uncover any phosporus, as ignition would result. One thousand grains of this contain one grain of phosphorus, and thus forms the third decimal. The fourth decimal may be considered the second centesimal. 2. Solution of one part of phosphorus in 500 parts of ether, aided by a water bath, adding an equal bulk of alcohol, forms the 3x attenuation.

There can be no trituration of phosphorus, in the presence of water or otherwise. Phosphates, phosphides, phosphines, or phosphites are results.

Allotropic phosphorus possesses different properties from the ordinary, being totally insoluble, capable of trituration without change, non-luminous, non-poisonous externally. It is capable of the usual chemical combinations, and the two kinds are readily inter-convertible.

PHOSPHORIC ACID.

GLACIAL PHOSPHORIC ACID.

$H_2 O\ PO_2\ O_5$, or HP_3

This acid is procured by the action of sulphuric acid upon calcined bones dissolving out the superphosphate thus formed and adding carbonate of ammonia to the point of saturation. The solution is then evaporated to dryness and heated to ignition in a platinum crucible. By this means the ammonia and all the water except one equivalent for each equivalent of the acid is driven off, leaving the glacial acid.

Form of preparation.— Aqueous solution, (1 part to 9) which changes soon to the tribasic variety, without alteration of medicinal qualities.

PHOSPHINUM.

PHOSPHORUS HYDROGENATUS. PHOSPHINE. PHOSPHURETTED HYDROGEN.

PH_3

A gas obtained by subjecting phosphorous acid to heat in a retort, the acid resolving into a phosphuretted hydrogen and phosphoric acid. It is also produced when water, phosphorus and caustic potash or slaked lime are heated together, the gas being collected over the pneumatic trough. It resembles ammonia gas, but has a disagreeable odor of garlic.

Form of preparation.—It cannot be readily prepared for use. Water dissolves but one-fifty-six of its bulk, and alcohol dissolves none.

PHYSALIA PELAGICA.

PORTUGESE MAN OF WAR.

PHYSOSTIGMA VENOSUM.

CALABAR BEAN.

A climbing plant having a woody stem that twines upon bushes, trees, etc., and especially found along the banks of streams, and is a native of western Africa. The root is spreading and tuberous, having many radicles. The flowers are in pendulous spikes, and of a pale pink color. The fruit legume is about seven inches long when

ripe, and contains two or three seeds. These are about the size of a large house bean, over an inch in length and three-quarters in width, firm, hard, brittle, and vary in color from a brownish-red to an ash-gray color. They are kidney-shaped, have a furrow along the convex margin, and contain a hard, white kernel, consisting of two cotyledons. Physostigmin is the alkaloid.

Part used.— The seeds.

Form of preparation.—Tincture made by macerating one part in five of alcohol, two weeks; filter. Trituration.

PHYTOLACCA DECANDRA.

POKE WEED. GARGET. PIGEON BERRY.

This indigenous plant grows on moist land, and reaches a height of six feet or more. The root is large, often five or six inches in diameter, divides into two or three branches, and is soft, fleshy, and fibrous. The stems are annual, numerously branched, green when young, but change to purple or scarlet. The leaves are ovate, acute at both ends, five inches long, smooth, and rich-green in color. The flowers are greenish-white, and arranged in spikes or racemes. The fruit or berries are disposed in long clusters, of a dark purple or blackish color, and contain a purple juice.

Active principles.— Phytolaccin is the resinoid. Vegetable acid.

Part used.— The root.

Form of preparation.— Tincture made by macerating one part in two of alcohol, two weeks; filter. Trituration of phytolaccin.

PICRIC ACID.

CARBAZOTIC ACID. PHENOL TERNITRITE.

$C_6 H_3 (NO_2)_3 OH$

An acid obtained by the action of nitric acid upon carbolic acid, coal tar, creasote, indigo, salicin, or silk. It is in pale, yellow, scaly crystals, slightly soluble in water, readily so in alcohol and ether, to each of which it imparts a yellow color and a bitter taste. Some of its salts are slightly explosive. It is called crysolepic, picranisic, or nitrophenisic acids. and Welter's Bitter.

Form of preparation.— Saturated solution in dilute alcohol for tincture, containing about 1 to 100 of water.

PIMENTA OFFICINALIS.

ALLSPICE. PIMENTO. JAMAICA PEPPER.

Officinal pimento comes from the Eugenia pimenta, a West India tree. The berries are about the size of a pea, round and somewhat wrinkled, of fragrant odor. As they are rarely adulterated, and common in household economy, a critical description is not necessary.

Active principle.—Volatile oil. Green oil. Resins.

Part used.—The berries.

Form of preparation.—Trituration. Tincture made by macerating in five parts of dilute alcohol for two weeks; filter.

PIMPINELLA SAXIFRAGA.

BURNET SAXIFRAGE. BIBERNELL.

A relative of the "anise-oil" plant, growing in dry meadows and hillsides in Europe. Aromatic, biting, pungent taste. Natural order umbelliferæ, herbaceous, furrowed stem, adherent, indistinct calyx, unequal obcordate petals, no disk; fruit ovate, ribbed, perennial; pinnately, many-parted leaf, compound umbel, no involucre.

Active principle.—Volatile oil and resin.

Part used.—The root and leaves. The entire plant.

Form of preparation.—Tincture made by macerating in five parts of alcohol, two weeks, and filtering.

PINUS LAMBERTIANA.

SUGAR PINE.

This species of pine yields a substance approaching to manna, and a very sweet sugar called pinite.

Part used.—The inspissated sap.

Form of preparation.—Trituration.

PINUS SYLVESTRIS.

SCOTCH FIR. WILD PINE.

This is a tree attaining a height of eighty feet, with a diameter of four or five feet, and is found in the northern and mountainous parts of Europe. A substance called fir wool is obtained in Germany from the leaves of this tree, which also yield a volatile oil.

Part used.—The leaves and young twigs.

Form of preparation.—Tincture, made by macerating one part in two of alcohol, two weeks; filter.

PIPER METHYSTICUM.

KAVA KAVA. AVA KAVA.

This plant is found growing in the Sandwich Islands, where it is used by the natives to make an intoxicating drink.

Part used.—The root.

Form of preparation.—Tincture.

PIPER NIGRINUM.

BLACK PEPPER.

A vine growing wild in China and India, but cultivated on the

Malabar coast, Siam, Malacca and the East Indies. The stem is woody, articulated, round, swelling near the joints, and is usually eight or ten feet high. The leaves are entire, broad-ovate, dark green, and attached by sheathe-like footstalks to the joints of the branches. The flowers are whitish and composed of a spathe and spadix. The fruit consists of red berries about the size of a pea, becoming black on drying. White pepper is the ripe berry stripped of its skin after maceration in water.

Active principles.—Piperin. Piperic acid. Pungent, volatile oil. (Piperidin.)

Part used.—The dried berry.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks; filter.

PIPCHURIM.

A South American plant, yielding a two-lobed, plano-convex, blackish-brown fruit, reddish-yellow internally, and dotted with darker points.

Part used.—

Form of preparation.—

PISCIDIA ERYTHRINA.

JAMAICA DOGWOOD.

PLANTAGO MAJOR.

GREAT PLANTAIN. RIBWORT.

This plant is often seen growing by the roadside, in grass plots, footpaths, etc., in Japan, Europe, and all parts of this country. The leaves are broad, ovate, smooth, about seven veined, and placed on long footstalks. The scape, a foot or more in height, bears white, inconspicuous flowers, disposed on a spike, five, six, or seven inches long. The seeds are greenish, and very numerous. The root is composed of long fibres.

Part used.—The fresh plant.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol, or by maceration in five parts of alcohol, two weeks; filter.

PLATINUM.

Pt.

This metal is found alloyed with palladium, rhodium, iridium, and iron, mixed together in the form of an ore. This is obtained from Brazil, Ceylon, and the Ural mountains, and in small amount from

other localities. The metal is reduced from the ore by nitro-muriatic acid and sal ammoniac, and heated to redness, the result being the spongy metal. This is welded into a compact mass at a white heat. Platinum is whiter than iron, very malleable and ductile, and fusible only by means of the oxy-hydrogen blowpipe and electricity.

Form of preparation.—Trituration of the metal precipitated by pyro-gallic acid, or of fine filings.

PLATINUM MURIATICUM.

PLATINIC CHLORIDE. TETRA-CHLORIDE OF PLATINUM.

$Pt''''Cl_4$

This is the bichloride of platinum of the old nomenclature ($PtCl_2$), and is formed by dissolving platinum in nitro-muriatic acid, and evaporating the solution. Should be filtered with asbestos to remove silver chloride precipitate. It is a brown or orange-red salt, soluble in alcohol, with gradual decomposition, and in water.

Form of preparation.—Aqueous solution to saturation, and dilutions in water to the fifth decimal.

PLUMBAGO LITTORALIS.

A Brazilian plant.

Part used.—The leaves.

Form of preparation.—Tincture made by macerating one part in two of alcohol, two weeks.

PLUMBUM.

LEAD.

Pb.

This metal is generally procured from the sulphide of lead, known as galena, an ore existing from Wisconsin to Arkansas. It also occurs in saline combination with arsenic, phosphoric acid, carbonic acids, and rarely as an oxide. The metal is chiefly obtained from galena, which is roasted in a reverberatory furnace at dull red heat, until a portion of the sulphide is changed into sulphate. The two are then mixed and the heat raised, by which sulphurous oxide and the metal are produced. It is a bluish-gray, soft, malleable metal.

Form of preparation.—Trituration, by which it is reduced to an oxide.

PLUMBUM ACETICUM.

NORMAL ACETATE OF LEAD. SUGAR OF LEAD.

$(C_2 H_3 O_2)^2, Pb+3ag.$

To produce this salt, protoxide of lead, acetic acid, and water are

mixed together, solution being aided with a gentle heat, with subsequent addition of slight excess of acetic acid. It is then filtered and evaporated until a pellicle forms on the surface. It is then allowed to crystallize. It is in white, needle-shaped, efflorescent crystals, having a sweet taste and soluble in water and alcohol. Should the water contain carbonic acid, a cloudy mixture will result — carbonate of lead.

Form of preparation.—Trituration. Solution in dilute alcohol, equal parts.

PLUMBUM CARBONICUM.

CARBONATE OF LEAD. WHITE LEAD.

CO_2 PbO

Occurs sometimes in connection with ores in the form of long, crystalline needles. It is formed by passing a stream of carbonic acid through a solution of subacetate of lead. It was formerly manufactured on a large scale by exposing sheet lead to the vapor of vinegar at a temperature of about 113° F., during a period of several weeks. It is a white, scaly, heavy powder, having no odor, and almost without taste. It is insoluble in water.

Form of preparation.—Trituration. May be transferred to dilutions after the fifth decimal.

PLUMBUM CHROMICUM.

CHROMATE OF LEAD. CHROME YELLOW.

CrO_4 Pb.

This is a yellow salt, precipitated when solutions of chromate of potassium and acetate or nitrate of lead are mixed together; filter, wash and dry in the usual way. Insoluble except in acids.

Form of preparation.— Trituration. May be transferred to dilution after the fifth decimal.

PLUMBUM IODIDUM.

IODIDE OF LEAD.

PbI_2.

Add iodide of potassium to solution of acetate of lead, as long as a precipitate falls. Filter, wash and dry the precipitate. It is a bright yellow powder, having neither smell nor taste, and is but slightly soluble in water.

Form of preparation.—Trituration. May be transferred to dilutions after the first decimal.

PODOPHYLLUM PELTATUM.

MAY APPLE. WILD LEMON. AMERICAN MANDRAKE.

An indigenous plant, common to the middle and western states,

where it flourishes in moist, shaded woods, and low grounds. It is about a foot in height, with a round, jointed stem, sheathed at the base, and bearing large, palmate, sometimes cordate, six lobed, yellowish-green leaves. The flowers are white, veined, drooping, about two inches in diameter, and fragrant. The fruit is a large, ovoid-oblong, yellow berry, dotted with brownish spots, and having a sweetish taste. The root is jointed and spreads rapidly.

Active principles.—Resinoid, called podophyllin. Berberina.

Part used.— The root, gathered late in autumn.

Form of preparation.—Tincture made by macerating one part in two of alcohol, two weeks; filter. Trituration.

POLYGONUM PUNCTATUM.

POLYGONUM HYDROPIPER. WATER PEPPER. SMARTWEED.

This plant is indigenous in all parts of the United States, growing among rubbish, in ditches, moist soil, etc. The stem is jointed, about two feet high, swelling above the joints, glandular, and of a reddish or greenish-brown color. The leaves are wavy, narrow, two or three inches long, and covered with pellucid dots. The flowers are small, greenish-white or purplish, and disposed on slender spikes. The fruit is rough, and either lenticular or three-sided.

Active principles.—Polygonic acid. Rutic acid, (ilixanthin).

Part used.— The whole plant.

Form of preparation.— Tincture made by expressing the juice, then adding an equal part of alcohol, or by macerating in five parts of dilute alcohol, one week; filter.

POLYPORUS PINICOLA.

PINE AGARIC.

Part used.—The fungus.

Form of preparation.—Trituration.

POPULUS TREMULOIDES.

WHITE POPLAR. AMERICAN ASPEN. ASPEN POPLAR.

This is the white poplar tree, the trunk of which rises to a height of thirty or forty feet, with a diameter of eight to twelve inches. The leaves are two inches long, and over an inch in width. These are supported on long stalks laterally compressed, thus allowing the leaf to be shaken by the least current of air. The fruit is an ament, about two inches long, and furnished with silky hairs.

Active principles.—Populin. Salicin, (saligenin and glucose).

Part used.—The inner bark.

Form of preparation.—Tincture made by macerating two weeks in dilute alcohol; filter.

PRINOS VERTICILLATUS.

BLACK ALDER. WINTERBERRY.

A plant about eight feet high, growing in moist woods and swamps in Canada, and the greater portion of this country. The leaves are oval, serrated, pointed, and downy on the under surface. The flowers are small, white, bunched and axillary, with the stamens and pistils contained in different individuals. The berries are scarlet, six-celled and six-seeded.

Part used.—The berries.

Form of preparation.—Tincture by maceration in two parts dilute alcohol, one week; filter.

PROPYLAMINUM.

PROPYLAMINE. TRIMETHYLAMINE. (HERRING BRINE.)

$C_3 H_9 N$

A principle existing in narcotina, cod liver oil, ergot, herring brine, several species of chenopodium, and the flowers of cratagus oxycantha, sorbus aucuparia, and is made from the digestive apparatus of cows. It is a transparent, colorless, inflammable liquid, having a peculiar, pungent odor. It is soluble in water. It is also known as Tritilamin, metacetamin, œnylamin, secalin.

Form of preparation.—Saturated solution in dilute alcohol for tincture.

PRUNUS PADUS.

BIRD CHERRY.

This is a native of northern Europe and Asia, where it is found upon the borders of, and in moist woods. The leaves are oval and wrinkled; the flowers are white, lateral, and disposed in long, hanging bunches. The fruit is round, black, and about the size of a pea.

Part used.—1. The leaves gathered at the time of flowering. 2. The fresh bark of the young branches.

Forms of preparation.—1. Tincture made by expressing the juice, then adding two-thirds of its weight of alcohol. 2. Tincture made by macerating one part in two of alcohol for two weeks; filter.

PRUNUS SPINOSA.

BLACK THORN. SLOE.

This member of the plum family is a native of Europe and central Asia, and naturalized in this country, usually growing wild, but sometimes cultivated as a hedge. It is a shrub, generally about twelve feet high, with thorny branches covered with blackish-gray bark, small, and solitary, bell-shaped flowers appearing before the leaves. The fruit is a small, round berry.

Part used.—The flower buds before flowering.

Form of preparation.— Tincture made by expressing the juice, then adding two-thirds its weight of alcohol.

PSORICUM.

PSORINUM.

Form of preparation.—

PTELEA TRIFOLIATA.

SHRUBBY TREFOIL. WAFER ASH. HOP TREE. WINGSEED. SWAMP DOGWOOD.

A shrub six or eight feet high, frequently met with in rocky, shaded places, from Pennsylvania to Wisconsin and thence southward. The leaves are trifoliate, three or four inches long, and dotted. The flowers are terminal, polygamous, greenish-white, half an inch in diameter, and possess a very disagreeable odor. The fruit is winged, two seeded.

Active principles.— An indefinite extractive, ptelein.

Part used.— Equal parts of the bark of the root and the leaves.

Form of preparation.— Tincture made by macerating one part in two of alcohol, two weeks, and filtering.

PULMO VULPIS.

FOXLUNG.

Form of preparation.— Trituration.

PULSATILLA NIGRICANS.

PULSATILLA PRATENSIS. ANEMONE PRATENSIS. WIND FLOWER. PASQUE FLOWER. MEADOW ANEMONE.

This plant is met with in nearly all parts of Europe, and also in the south of England. It prefers a sandy soil and a hilly locality, exposed to the sun. The woody root is short, thick and round, supporting a number of simple stems, three to five inches high, together with numerous radical leaves. The flowers are of a violet red or blackish-purple, and placed upon stalks five to eight inches high. The plant flowers twice a year. Great care should be taken to distinguish this from the anemone pulsatilla.

Active principle.— A base anemonin, somewhat indefinite.

Part used.— The entire plant, gathered in April.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Also by macerating in five parts of alcohol for two weeks ; filter. Greenish-yellow.

PULSATILLA NUTTALIANA.

ANEMONE PRATENSIS (?). AMERICAN PULSATILLA. PASQUE FLOWER (?)

The only species of this genus growing in this country, and is seen in dry, hilly regions in Minnesota and Illinois, and westward from the valley of the Platte to the Rocky Mountains. The stem varies in height from six to ten inches, with long, stalked, divided leaves, both stem and leaves being covered with long, silken hairs. The flowers are single, cup-shaped, purple, and make their appearance before the leaves. The fruit is furnished with silky hairs, one or two inches in length, and long, silken hairs are attached to the seeds, by which the seeds are carried by the wind to great distances.

Part used.—The whole plant.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Also by macerating in five parts of alcohol two weeks; filter.

PYRETHRUM PARTHENIUM.

SPANISH PELLITORY. FEVERFEW.

The leaves of this pyramidal plant are disposed tripinnately, the leaves being ovate. The flowers are white and double.

Part used.— The dried root.

Form of preparation.— Tincture made by macerating one part in five of alcohol, two weeks, and filtering.

QUASSIA AMARA.

QUASSIA.

A small tree or shrub native in Surinam and some of the West India Islands. The leaves are alternate, with elliptical, smooth, dark green leaflets. The articulated footstalk is edged with a leafy membrane. The flowers are hermaphrodite, bright red, and disposed in terminal racemes, and the fruit is a two-celled capsule, furnished with winged seeds. The bark, root, and body wood are exceedingly bitter. The wood is imported into this country in the form of billets, whitish at first, but afterwards yellowish.

Part used.—The wood.

Form of preparation.—Tincture made by macerating one part in five of alcohol, two weeks; filter.

RANUNCULUS ACRIS.

BUTTERCUP. CROWFOOT. YELLOW WEED.

This species grows from Hudson's Bay to Pennsylvania, and found in pastures where it spreads rapidly. It is from one to two feet high, with a hollow stem, usually hairy. The leaves are trifid and from one

and one-third to three inches in diameter. The flowers are large and golden yellow. The common names of crowfoot, yellow weed, etc. are applied indiscriminately to different varieties of ranunculaceæ.

Part used.—The fresh herb gathered in October.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. Brownish-yellow.

RANUNCULUS BULBOSUS.

BULBOUS CROWFOOT.

This variety is met with in meadows and pastures in nearly all parts of Europe. It is about a foot high, with several round, branching stems, swelling at the base into a bulbous expansion. The leaves are three, segmented, and stand on long footstalks. The flowers are glossy and bright yellow, the petals being bent downwards against the stalk. The fruit is a spherical head composed of a number of naked seeds. All parts are hairy.

Active princle.—Ranunculin.

Part used.—The whole plant.

Form of preparation.—Tincture made by macerating in five parts of alcohol, two weeks, and filtering.

RANUNCULUS FLAMMULA.

SMALL SPEARWORT.

An aquatic plant inhabiting ditches, swamps, etc., from the Canadas south to North Carolina, and eastward from the Mississippi. It varies from six to eighteen inches high, with tender, juicy, decumbent stems, containing an acrid fluid. The flowers are solitary and golden yellow.

Part used.—The entire fresh plant.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol.

RANUNCULUS GLACIALIS.

CARALIN OR CACLINE.

Part used.—The fresh plant.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol.

RANUNCULUS REPTANS.

CREEPING CROWFOOT.

A slender creeper of this genus, met with in more northern latitudes, where it prefers river banks and other wet localities. The stem is

from six inches to a foot long, rooting at the joints. The leaves are long, narrow, and acute. The flowers are yellow, shading to white.

Part used.—The entire plant.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol.

RANUNCULUS REPENS.

CREEPING BUTTERCUP.

In common with the other varieties of this genus, this plant is generally found in moist and shaded localities, and is of frequent occurrence in Canada and this country. The stem is from one to four feet high, branching from the base. The leaves are trifoliate, dark green, and hairy on the veins. The flowers are bright yellow.

Part used.—The plant.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol.

RANUNCULUS SCELERATUS.

MARSH CROWFOOT. CELERY-LEAVED BUTTERCUP. CELERY CROWFOOT. HERBA SARDOA.

This is also found in low, moist situations, with a thick, hollow, branching stem, one to two and one-half feet high, with five parted leaves, and numerous, small, yellow flowers. It is the most acrid of all the ranunculaceæ.

Part used.—The whole plant.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol.

RHAMNUS CATHARTICUS.

BUCKTHORN.

A somewhat rare shrub seen in the mountains and woods of New York and Massachusetts, growing from ten to fifteen feet high. The branches are thorny and bear leaves one or two inches long, in crowded clusters at the ends of the branches. The flowers are small, green and numerous; the fruit or berries are round and black.

Active principles.—Rhamnin (cathartin and glucose).

Part used.—The ripe berries.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol.

RHAMNUS FRANGULA.

BLACK ALDER. BUCKTHORN ALDER.

This plant is met with in this country from Pennsylvania to Canada

where it inhabits rough pastures and hilly localities. The stem is erect, from two to four feet high, with unarmed branches, bearing oval, sharply pointed, serrate leaves, hairy on the veins beneath, and about two or three inches long. The flowers are without petals, and the fruit or berries about the size of currants, are black and three-seeded.

Active principles.—Same as R. catharticus.

Part used.—The bark from the younger branches (spring).

Form of preparation.—Tincture, by macerating in five parts of alcohol two weeks, and filtering.

RAPHANUS SATIVUS.

RADISH.

This is the familiar garden root, originally a native of China, and too well known to need description here. A variety, the raphanus æstiving, or Spanish radish is sometimes employed, the root of which is large, turnip-shaped, and black.

Part used.—The root.

Form of preparation.—Tincture made by macerating one part in two of alcohol, one week; filter.

RHATANIA PERUVIANA.

RATANY. KRAMEVIA TRIANDRIA.

A shrub, native in Peru and Bolivia, having a wide spreading, brownish or blackish-red color, and a dark colored stem. The young branches are covered with soft, white hairs, giving them a silky appearance. The flowers are solitary and lake colored. The fruit is round, about the size of a pea, and covered with reddish-brown prickles.

Active principles.—Tannin. Rhatanic acid. (Krameric acid). Kramerin.

Part used.—The dried root.

Form of preparation.—Tincture made by macerating one part in five of alcohol, two weeks, and filtering.

RHEUM PALMATUM.

RHUBARB. RHABARBARUM.

There are a number of varieties of this plant, and these are exported chiefly from Turkey, Russia, China, Siberia. As received in the market it is in the form of irregular pieces about the size of a small fist, sometimes having a hole bored in the middle, yellow in color, marbled with gray or red veins, and possessing a pleasant, aromatic odor, and a bitter taste. The first named place furnishes the best article.

Active principles.—Aporetin. Rhæortin. Erythrovetin (chrysophanic acid). Rheumin.

Part used.—The root.

Form of preparation.—Hahnemann directs that four parts of the pulverized root be made into a thick paste with one part of carbonate of potassa, and one part of distilled water. One part of this is mixed with five parts of alcohol. Tincture, by macerating one part in five of dilute alcohol, two weeks. Filter.

RHODIUM NITRICUM.

RHODIUM NITRATE. NITRATE OF RHODIUM.

A small quantity of rhodium sponge, and the hydrate of potassa and nitre, is exposed to the action of the blowpipe until oxidized. After having the oxide well washed and boiled in nitric acid for a few minutes, and exposed to a gentle heat for an hour, the nitrate is obtained by dissolving in nitric acid. A fluid of a golden color, and of the consistency of syrup.

Form of preparation.—(?)

RHODODENDRON CRYSANTHUM.

GOLDEN FLOWERED RHODODENDRON.

An evergreen shrub about a foot high, and a native of the mountainous regions of Siberia, Kamtschatka and the Caucasus. The leaves are two or three inches long, smooth, yellowish-green or nut-brown, have an odor like rhubarb, and possess an astringent taste. They are somewhat similar in appearance to R. ferrugineum, but the latter are distinguished by the dark rust colored cover of the under side. The flowers are red, brown and woolly.

Part used.—The leaves and blossoms.

Form of preparation.—Tincture, dark brown color, and astringent taste; made by macerating one part in five of dilute alcohol, two weeks; filter.

RHUS GLABRA.

PENNSYLVANIA SUMAC. SMOOTH SUMAC. UPLAND SUMAC.

A shrub ranging from six to fifteen feet high, and found in thickets and uncultivated grounds in all parts of the country. It is made up of straggling branches, with leaves about three inches long, becoming red in the autumn. The flowers are greenish red and disposed in dense terminals. The fruit is crimson, and has a very sour taste. No definite bases or acids yet isolated.

Part used.—The bark or leaves.

Form of preparation.—Tincture, made by macerating one part in two of alcohol, two weeks; filter.

RHUS RADICANS.

POISON IVY.

There is a diversity of opinion concerning the identity of this plant with, or its distinctness from R. toxicodendron. The stem is *twining* or *creeping*, is from five to forty feet long, and furnished with strong fibres or radicals, by means of which it attaches itself to trees, fences, walls, etc., hence the name radicans. The leaves are composed of three leaflets, supported on long footstalks, and have *entire* margins. The flowers are small and greenish white; the fruit is a pale-green or whitish berry.

Active principles.—With R. tox. a peculiar volatile base, not named, and volatile acid — toxicodendric.

Part used.— The leaves, gathered after sunset.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol. By macerating in five parts of alcohol, two weeks and filtering.

RHUS TOXICODENDRON.

POISON OAK.

A shrub varying from one to three feet high, growing in all parts of this country, and having a reddish, branching root. The stems are *upright*, covered with a grayish-brown bark, and contain a milky juice. The leaves are from two to six inches long, disposed in three's, *downy* on the under side, and *segmented* like those of the oak. The name toxicodendron is bestowed on account of its poisonous milk. The flowers are small, yellowish-green, and arranged in axillary spikes. The fruit is oval, five furrowed, pale brown berry.

Active principles.— Same as R. radicans.

Part used.—The leaves gathered after sunset in shady places in May and June, before flowering.

Form of preparation.—Tincture, dark yellow, made by expressing the juice, then adding an equal part of alcohol. By macerating in two parts of alcohol two weeks; filter.

RHUS VENENATA.

DOGWOOD. POISON SUMAC.

A small shrub known by some as rhus vernix, varnish tree, swamp sumach, poison elder, poison ash, is ten, fifteen or twenty feet high, and of common occurrence in the swamps of China, Japan, and this country. The branches are spreading and the leaf stalks red, with

oblong or oval leaflets arranged in from three to six pairs. The flowers are greenish, very small. The fruit or berries are greenish-yellow or greenish-white, marked with purple veins, are about the size of a pea, and contain a white, hard, furrowed seed.

Part used.—The bark.

Form of preparation.—Tincture, made by macerating one part in two of alcohol two weeks, and filtering.

RICINUS COMMUNIS.

PALMA CHRISTI. CASTOR OIL PLANT.

A native of the East Indies and northern Africa, also naturalized in the West Indies, and extensively cultivated in this country. In its tropical home it is a plant thirty or forty feet height in but in this climate ranges between three and eight feet. As seen in this country, the stem is large, round, hollow, smooth and purplish. The leaf-stalks are long, supporting large, shield-like, seven or nine lobed, smooth green leaves. The flowers are arranged pyramidally on a pointed terminal raceme. The fruit is a smooth, roundish, three-sided, three-celled capsule, each one of these containing a single oval, oily, gray or ash-colored seed about the size of a bean.

Part used.—The ripe seeds.

Form of preparation.—Tincture, made by macerating one part in five of alcohol two weeks; filter.

ROBINIA PSEUDO-ACACIA.

LOCUST TREE. FALSE ACACIA.

A native of Pennsylvania, this tree is occasionally met with in many of the New England, and the more southern and western states and attains a variable height of forty, fifty or sixty feet. The branches are covered with thorns when young which afterward disappear. The leaves are composed of from eight to twelve pairs of leaflets, and a terminal one. These are thin, oval, and very smooth. The flowers are in pendulous clusters, and have a delightful fragrance. The fruit is a flat, narrow pod, containing five or six brown seeds.

Active principles.—Robinic acid (isomeric with asparagin).

Part used.—The leaves or bark of the young branches.

Form of preparation.—Tincture, made by macerating one part in two of dilute alcohol two weeks; filter.

ROSMARINUS OFFICINALIS.

ROSEMARY. ROSMARIN.

An evergreen shrub about four feet high with long, obtuse, entire, smooth, dark green, aromatic leaves. The flowers are bright blue, and have a camphorous odor. Possesses a medicinal essential oil, oleum rosmarini. (Oleum anthos).

Part used.—The leaves and blossoms gathered in May and June.

Form of preparation.—Tincture, brownish green, made by macerating one part in five of alcohol.

RUMEX ACETOSA.

RUMEX ACETOSELLA. SORREL. FIELD SORREL. SHEEP SORREL.

A common plant found in pastures, dry, rocky soil and waste lands. The leaves are halbert-shaped, have an acid taste, and contain a large portion of binosalate of potassa. The flowers are small and reddish.

Part used.—The fresh leaves.

Form of preparation.—Tincture, made by macerating one part in two of alcohol two weeks; filter.

RUMEX CRISPUS.

YELLOW DOCK.

This plant grows in ditches and by the roadsides in Europe, Russian Asia, Great Britain and this country. The stem is two or three feet high, smooth channelled, and few branched, with lancelike, tapering, waved leaves. The flowers are numerous and half whorled. The root is fusiform and yellow. Probably contains rumicin, with R. obtusifolius.

Part used.—The fresh root.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. By macerating in two parts of alcohol two weeks; filter.

RUMEX OBTUSIFOLIUS.

LAPATHUM ACUTUM. HERBA BRITTANICA. BROAD LEAVED DOCK

A rapidly spreading plant, often covering large areas. The stem is two to three feet high, branching and leafy, the radical leaves being large, oblong, and heart shaped, with the leaf-stalk and veins colored red. The flowers are disposed in oblong racemes.

Active principles.—Chrysophane. (Chrysophanic acid. Rumicin. Rheinic acid. Rhubarbin.) These belong to the Rumex family in general. Not specifically to R. Lapatham.

Form of preparation.—See R. crispus.

RUTA GRAVEOLENS.

RUE. GARDEN RUE.

A hardy evergreen branching shrub, two or three feet high, rough and woody near the base, but smooth and green as it ascends. The leaflets are obvate, dotted, thick and fleshy. The flowers are yellow, about six inches in diameter, and disposed in a terminal corymb. The plant has a hot, bitter, nauseous tasle. It is a native to the south of Europe.

Active principles.—Rutin. Rutinic acid. (Rutylic acid, capric acid). Quercitron. (?)

Part used.—The plant before flowering.

Form of preparation.—Tincture, dark brown color, made by expressing the juice, then adding an equal part of alcohol.

SABADILLA.

VERATRUM SABADILLA. HELONIAS OFFICINALIS.

A plant known also by the names of ceradilla, asagrœa officinalis, flourishing on the eastern sides of the highlands of Mexico, the encapsulated seeds of which are exported from Vera Cruz. Its exact position in botany is yet undetermined. The fruit, about half an inch long, consists of three yellow, or pale brown capsules or follicles containing one or two seeds apiece. These are about a quarter of an inch long, plano-convex, blackish or brownish, pointed at either extremity, and have an acrid, burning long-lasting taste. It is from these that the alkaloid veratria is obtained.

Active principles.—Sabadillic or ceradic acid. Anhydrous and hydrated sabadillin. Veratria. (?)

Part used.—The seeds.

Form of preparation.—Tincture, yellowish brown color, made by macerating one part in five of alcohol two weeks; filter.

SABINA VULGARIS.

JUNIPERUS SABINA. SAVINE.

This evergreen shrub varies in height from three to fifteen feet, having numerous pliant branches, covered with small, erect, pointed, dark green leaves, bearing some resemblance to those of juniperus virginiana or red cedar, and have a heavy disagreeable odor. The fruit is an ovoid, tubercular, blackish-purple berry. It is met with in the mountainous districts of central and southern Europe, the levant, the ancient country of the Sabines, and the country surrounding the great lakes of the United States.

Part used.—The fresh leaves.

Form of preparation.—Tincture dark brown color, made by expressing the juice, then adding two thirds its weight of alcohol.

SALICINUM.

SALICIN.

$C_{13}H_{18}O_7$

The active principle of salix alba or white willow, procured by adding subacetate of lead to a decoction of the bark, precipitating the lead with sulphuric acid, evaporating the remaining liquid, then

adding washed animal charcoal, filtering while hot, and setting aside to crystallize. Another method consists in boiling a concentrated decoction of the bark with litharge. Sulphuric acid and afterwards sulphite of barium are added, and the liquid filtered and evaporated, when crystallization takes place. Permanent. Soluble in 17 parts of cold water, and 25 to 30 parts of alcohol.

Form of preparation.—Trituration.

SALICYLIC ACID.

SPIROYLIC ACID.

$C_6 H_5 (OH)CO_2$

An acid residing in spiræa blossoms and wintergreen (Gaultheria procumbens) and artificially prepared by several processes, such as the conversion of salicylous acid by oxidizing agents into salicylic acid; the union of phenol (salicon) with carbonic acid by means of sodium; heating salicin with an excess of potash. It is a snow white, crystalline powder, without taste or odor. Isomeric with ampelic and oxybenzoic acids. Soluble in alcohol, slightly in water.

Form of preparation.—Trituration.

SALIX PURPUREA.

OSIER. RED OR PURPLE WILLOW.

The provings of what was called red willow, are found to have been made with cornus sericea or red osier (dogwood). It is a shrub from two to eight feet high, growing in the United States and Canada. The bark is reddish, that of the branches dusky purple, and the shoots are dark red. The leaves are from two to four inches long, ovate, oval or lanceolate, and have prominent veins. The flowers are yellowish-white, and the fruit is bright blue.

Active principles.—Salicin. Saliretin (salicetin). Saligenin.

Part used.—The bark.

Form of preparation.—Tincture one part in two of alcohol two weeks; filter.

SAMBUCUS CANADENSIS.

COMMON ELDER.

This is an indigenous shrub from six to ten feet high, growing in low, moist, situations, along fences, thickets and the margin of small streams. It is met with in all parts of this country from Canada to the Carolinas, and as far west as Texas. The stem is covered with a rough, gray bark, and contains a light porous pith. The smaller branches are smooth, and the leaves are oblong oval, tapering, smooth, shining, and in three or four pairs, with an odd ova. The flowers are numerous, small, white and in very large cymes. The fruit is a small round, dark purple berry.

Active principles.—Valerianic acid. (Valeric, baldrianic, delphinic, phocenic, viburnic). Sambulolic and angelic acid.

Part used.—The fresh leaves and blossoms.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol. Also by macerating in five parts, of dilute alcohol two weeks; filter.

SAMBUCUS NIGRA.

THE EUROPEAN ELDER.

This differs from the American variety in size, having more the appearance of a tree. It is found chiefly in central and southern Europe, England and Wales. The stem is thickly branched above, its bark is rough and whitish externally, the inner bark is without odor, but has a sweetish and a bitter, nauseous after taste. The leaves are pointed and four paired, with a terminal one. The flowers are small and whitish, in five parted cymes, and have a sweetish odor, with a bitter taste. The fruit is a blackish purple berry having a bitter nauseous taste.

Active principles.—As in S. canadensis.

Part used.—(1). The inner bark of the young leaves. (2). Equal parts of the fresh leaves and flowers gathered in June and July.

Form of preparation.—(1). Tincture, brownish green color, made by expressing the juice, then adding two-thirds its weight of alcohol. (2). Tincture made by expressing the juice, then adding an equal part of alcohol.

SANGUINARIA CANADENSIS.

BLOODROOT. RED ROOT. PUCCOON.

This is a plant of early spring, and grows in loose, rich, soils in all parts of the country. The root is horizontal, contorted, two or three inches long, and about the size of a finger, reddish-brown externally, and a bright orange red internally, furnished with many radicles. The leaf-stalks and scape arise from one end of the root. The leaves are heart or kidney-shaped, lobed and yellowish-green, with orange colored veins. The scape or flower stalk is from six inches to a foot high, and bears a single white flower, sometimes tinted with rose or purple. The fruit is an oblong capsule, pointed at both ends, containing a number of oval, reddish-brown seeds. A reddish juice flows whenever the plant is wounded, but is deeper in color and more abundant in the root.

Active principles.—Sanguinarin, (chelerythrin).

Part used.—The root.

Form of preparation.—Tincture, of a hyacinth-red color, made by macerating one part in five of alcohol.

SANTONINUM.

SANTONIN. SANTONIC ACID.

$C_{15}H_{18}O_3$

This is the active principle of artemesia contra or cina. It is obtained by digesting santonica and lime in dilute alcohol, and the fluid then expressed, This is twice repeated, using the same quantity of alcohol. The tinctures are then mixed, and a certain amount of alcohol distilled off. The remainder is filtered, evaporated one-half, acetic acid added in excess, and crystallization allowed to take place. The crystalline mass is washed, dried, boiled with alcohol, digested with animal charcoal, filtered while hot and allowed to crystallize. It is in colorless, rhombic crystals, nearly insoluble in water, but more soluble in alcohol (1-50) to which it imparts a very bitter taste.

Form of preparation.—Trituration.

SAPONINUM.

SAPONIN.

$C_{22}H_{54}O_{28}$

A proximate principle obtained from the root of saponaria officinalis, a plant growing wild in Europe and this country, and passing under the names of "Soapwort" and "Bouncing Bet." This plant is from one to two feet high, has smooth, lanceolate leaves and purplish flowers. Saponin is obtained in an impure state by treating the watery extract of the root with alcohol, filtering and evaporating filtrate. It is a brown, translucent, brittle substance, having a sweetish taste, and soluble in water and dilute alcohol. It is also known as, or isomeric with, senegin, seneguin, polygalic acid, githagin, struthen, polygalin.

Form of preparation.— Trituration.

SARRACENIA PURPUREA.

PITCHER PLANT.

This plant, known also as huntsman's cap and side saddle flower, flourishes in all parts of this country, from Labrador to Florida, but is usually found in the immediate vicinity of shallow, muddy lakes, low, wet localities, etc. The peculiarity of this plant lies in the leaves; these are tubular, swelling like a pitcher, and at the same time bear some resemblance to an old-fashioned side-saddle. They generally contain about a wineglassful of water. The flower is purple and nodding, and supported upon a stalk one or two feet high.

Part used.—The bark of the root.

Form of preparation.— Tincture made by macerating one part in five of dilute alcohol, two weeks; filter.

SARSAPARILLA OFFICINALE.

SARSAPARILLA.

The roots of many varieties of the smilax officinale are gathered under the general name of sarsaparilla. That variety known as Honduras sarsaparilla is to be preferred in Homœopathic pharmacy. It is exported from the Bay of Honduras and received here in bundles about eighteen inches long, composed of pipe-like roots about the size of a goose quill, covered with rootlets, reddish or reddish-brown in color, and having a feeble, bitter taste. Occasionally the roots are attached to a common head.

Active principles.—Sarsaparillin. (Smilicin, pariglin). Parallinic acid.

Part used.—The root gathered in May before flowering.

Form of preparation.— Tincture, light brown color, made by macerating one part in five of dilute alcohol, two weeks; filter. Trituration.

SASSAFRAS OFFICINALE.

LAURUS SASSAFRAS. SASSAFRAS.

This is a medium sized, indigenous tree, sometimes attaining a height of thirty feet. In the New England states it is not much larger than a shrub, but in the southern states it assumes good proportions. The bark is gray, deeply furrowed, and aromatic. The leaves vary in form and size on the same tree. The flowers are small, greenish-yellow, and appear before the leaves. The fruit is small, oval, deep blue, and is supported on a red pedicle.

Active principles.—Sassafras camphor. Volatile oil. Sassafrid.

Part used.—The bark of the root, and inner bark of trunk and the stems.

Form of preparation.—Tincture reddish-brown, made by macerating one part in five of alcohol.

SCAMMONIUM.

CONVOLVULUS SCAMMONY. SCAMMONY.

A native of Syria, Anatolia, and some islands of the Archipelago, growing wild in rocky places and among brushwood. The stems are numerous, slender, twining or creeping, and sometimes extend for fifteen or twenty feet. The leaves are bright green, and arrow shaped. The flowers disposed in 2s and 3s are placed upon stalks twice the length of the leaves. The root is three or four feet long, and as many inches in diameter, branching at the lower part, and contains a milky juice. At the proper season this is collected by cutting the root obliquely across and placing a shell at the lowest part of the cut surface to receive the juice. This afterwards hardens.

It is largely adulterated with flour, starch, meal, and in the south of France is mixed with other resins.

Part used.— The resin.

Form of preparation.— Trituration.

SCHINUS MOLLE.

CHILI PEPPER. PEPPER TREE.

This is an evergreen shrub, a native of Mexico and South America, and frequently cultivated in southern California, where it is called Chili pepper and the pepper tree.

Part used.—The bark.

Form of preparation.—Tincture, made by macerating in five parts of alcohol, two weeks; filter.

SCOLOPENDRA.

CENTIPEDE.

SCORPIO EUROPÆAS.

SCORPION.

Part used.—The entire living animals.

Form of preparation.— Tincture made by placing one part in five parts of alcohol.

SCROFULARIA NODOSA.

FIGWORT.

A square-stemmed plant of frequent occurrence in hedges and bushes in all parts of Canada and this country, but rare in New England. It is about two or three feet high, with long, smooth, thin leaves, from three to seven inches long; the upper leaves are variable. The flowers are dark purple, disposed in terminal pyramids or thyrses, on divided peduncles. The root is tuberous and knotty.

Part used.— 1. The root. 2. The entire plant before flowering.

Form of preparation.— 1. Tincture made by macerating one part in five of alcohol, two weeks; filter. 2. Tincture made by expressing the juice, then adding an equal part of alcohol.

SCUTELLARIA LATERIFLORA.

SKULLCAP. MAD DOG.

An indigenous herb, one or two feet high, found in meadows and ditches as far north as the Arctic circle. The stem is square and branching, with thin, nearly membranous leaves. The flowers are numerous, small, pale blue, and intermixed with leaves upon long,

lateral racemes. The name skullcap is derived from the closing of the calyx upon the seeds like a cap.

Active principle.—Scutellarin, a precipitate, but not pure alkaloid.

Part used.—The whole plant.

Form of preparation.—Tincture made by macerating one part in two of alcohol, two weeks; filter. Trituration.

SECALE CORNUTUM.

ERGOT. SPURRED RYE.

This is a fungous growth, taking place in the heads of various kind of grains. The growth projects beyond the husk, is cracked, fissured, covered like a cock's comb, violet-brown externally, yellowish-white internally, and has the odor of putrid fish, with a disagreeable taste. There are usually four or five of these on the same spike, sometimes as many as ten or fifteen.

Active principles.—Secalin (see propylamin). Ergotin.

Part used.—The freshly gathered growth before the rye is harvested.

Form of preparation.—Tincture made by macerating one part in five of strong alcohol, one week; filter. Dark, hyacinth-red color. Trituration made by using one part with ninety-nine of sugar of milk to form the first trituration.

SEDINHA.

A common, herbaceous plant, growing in the neighborhood of Rio Janeiro, having opposite lanceolate, sharp-leaves. Their upper surface is downy, the lower covered with long, silky hairs.

Part used.—The leaves.

Form of preparation.—Tincture.

SELENIUM.

Se.

A substance sometimes found associated with sulphur, or in combination with various metals, but is of infrequent occurrence. It is chiefly met with in Norway, Sweden, Transylvania and the Hartz mountains. It is reddish-brown in color, has a slight metallic lustre and when heated gives out a peculiar odor.

Form of preparation.—Trituration; first trituration is of reddish green color.

SEMPERVIVUM TECTORUM.

HOUSELEEK.

This is a hardy garden plant, but is so tenacious of life that it grows

on dry walls, roofs of houses, etc. The leaves are thick, fleshy, and mucilaginous.

Part used.—The whole plant.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol.

SENECIO AUREUS.

GOLDEN SENICIO.

This plant is also known as life root, golden ragwort, squaw weed. It is found on low marshy ground, the banks of creeks, etc., in the northern and western portions of this country. It is about one or two feet high, with a striated stem, wooly when young, smoother with age. The radical leaves are heart-shaped, the stem leaves lyre-shaped. The flowers are golden yellow, and disposed in umbels at the summit of the plant. The root is horizontal, grows just beneath the surface of the ground, and varies from half an inch to six or eight inches in length, and reddish or purple in color. The senecio gracilis is considered by some to be the same plant, being slenderer and growing on rocky shores. Senecin is a resinoid extractive.

Part used.—The whole plant.

Form of preparation.—Tincture, made by macerating one part in two of alcohol.

SENEGA.

SNAKEWORT.

This plant, the polygala senega, or seneca snake root, though infre quent in the eastern states, is abundant in the southern and western. The leafy stems vary from nine inches to a foot high, having numerous alternate or scattered lanceolate, pointed leaves. The flowers are small, white, and disposed on a terminal spike from one to three inches long. The fruit or capsules are small, compressed, two valved, and two celled, and contain two blackish seeds. The root is ash-colored, tapering, branched, contorted, usually half an inch thick, has a keel-like line extending its whole length, and possesses a sweetish afterward pungent taste.

Active principles.—Senegin or seneguin, identical with saponin. See saponin. Virgineic acid. (Sapogenin).

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part in five of alcohol.

SENNA ALEXANDRIA.

SENNA.

This is mainly the product of Cassia acutifolia, a shrub growing

wild in upper Egypt. It is two or three feet high, sometimes higher. The stem is whitish, and bears leaves composed of from four to six pairs. The flowers are yellow and in spikes. There are other varieties and even species coming under the name of senna that are exported from India and Africa, and cultivated in Italy, Spain, and the West India Islands.

Active principles.—Cathartin, impure chrysophanic acid. Sennecrin and sennaretin are of doubtful composition.

Part used.—The leaves.

Form of preparation.—Tincture, made by macerating one part in five of alcohol two weeks; filter.

SEPIA.

SEPIÆ SUCCUS.

The juice from the cuttlefish, a mollusc, having an oblong body, and furnished at one end with a circular row of flexible arms or tentacles, and a central mouth armed with a strong, horny beak. Beneath the skin of the back is situated a flat, oval, bony plate varying in size from eight to ten inches in length. In the posterior part of the abdomen is situated a gland that secretes an inky fluid, which is stored in an oval pouch communicating externally by an excretory duct. This liquor is forcibly ejected when the creature is pursued, darkening the water to such an extent as to make escape possible. This gland is removed whole and the contents dried while yet in the sac. It is round, blackish-brown, brittle and about the size of a grape. The sepia prepared for artists should not be used, as this has been acted upon by caustic potash.

Part used.—The dessicated, inky fluid.

Form of preparation.—Trituration. Tincture by macerating one part one week in five parts of dilute alcohol. Filter.

SERPENTARIA.

VIRGINIA SNAKE ROOT.

The root of the aristolochia serpentaria is composed of numerous slender, interlaced fibres attached to a central, knotty stalk. The stems rise to a height of eight or ten inches, are jointed at irregular intervals, reddish or purplish at the base, and bear oblong heart-shaped leaves supported on long stalks at the joints of the stem. The flowers situated at the joints near the base are purple, solitary, and pendant. The fruit is an angular, six-celled capsule, and contains a number of small, flat seeds. The plant is chiefly found in deep woods, in western Pennsylvania, Virginia, and the valley of the Ohio river.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part in five of alcohol two weeks; filter.

SILICEA.

SILEX FLINT.

This mineral is the oxide of the metalloid silicium (silicic oxide), and its English name is silica. It is an acid, forming silicates with the metals. It occurs in large masses, the purest form being rock crystals. It enters into the composition of agate, opal, quartz, chalcedony, flint and other minerals.

Form of preparation.—Trituration of rock crystals.

SILPHIUM LACINIATUM.

ROSIN WEED. COMPASS PLANT. POLAR PLANT.

A plant growing principally upon the prairies of Illinois and Wisconsin, and from thence southward to Texas, frequently known as polar plant or rosin weed. It is very coarse, bristles with fine white hairs, and contains a large amount of resin. The stem varies from three to ten feet in height, having much divided leaves one or two feet long, resembling some varieties of thistle. The lower ones are said to uniformly present their points north and south. The flower heads are yellow rayed, few in number, but large.

Part used.—The plant in flower.

Form of preparation.—Tincture, made by macerating one part in two of alcohol two weeks; filter.

SINAPIS ALBA.

WHITE MUSTARD.

This is an annual plant, a native of Europe, and grows from two to five feet high, with a bushy stem and lyrate leaves. The flowers are yellow, and the fruit consists of round, spreading, bristly pods, swollen at intervals with the seeds. These are small, round, yellowish, have a hot, biting taste, and are about four in number to each pod. The plant is similar in appearance to the S. nigra.

Active principles.—Volatile oil of great power, analogous to that from "horse radish"—a compound of allyl. Myrolic (myronic) acid. Myrosin. Sinapisin.

Part used.—The seeds powdered.

Form of preparation.—Tincture, made by macerating one part in five of alcohol two weeks, and filtering. Oil used externally.

SINAPIS NIGRA.

BLACK MUSTARD.

Also a native of Europe, but naturalized in some parts of this country. It is three or four feet high and much branching. The

leaves near the root are large, rough, and variously lobed, the topmost being narrow, smooth, and pendant. The flowers are small, sulphur yellow, and the fruit or pods are quadrangular, nearly parallel with the branches, beaked, and contain numerous seeds. They are round, blackish or brownish, smaller than the white mustard seeds, and have a hot, bitterish taste.

Active principles.—See S. alba. Bases are more prominent in S. nigra.

Part used.— The seeds.

Form of preparation.—Tincture made by macerating one part in five of alcohol, two weeks; filter.

SINGEHERA.

SIUM LATIFOLIUM.

COMMON WATER PARSNIP.

A creeping umbelliferous plant,; a relative of Apium grav., (celery).

Form of preparation.—Tincture by macerating the entire plant in two parts of alcohol, two weeks; filter.

SOLANUM ARREBENTA.

ARREBENTA CAVALLOS.

A plant growing in the provinces of Rio Janeiro, and varying in height from ten to sixteen inches. The root or rhizome gives out many fibres. The stem and branches when young are covered with thorns; the leaves are lobed and furnished with thorns, and the fruit is a red, fleshy, many-seeded berry.

Part used.— The leaves.

Form of preparation.—Tincture by macerating in five parts of alcohol for two weeks; filter.

SOLANINUM.

SOLANINE.

$C_{21}H_{35}NO_7$ (?)

This principle resides to a greater or lesser extent in all the solaniceæ, but is chiefly procured from the solanum dulcamara and S. tuberosum, or common potato. The sprouts are macerated for twelve or eighteen hours in water previously acidulated with sulphuric acid, expressing them and adding fresh sprouts. The liquor thus obtained is allowed to stand for several days, then filtered, treated with excess of hydrate of lime, separating the resulting precipitate on a filter, drying it, boiling several times with alcohol, evaporating to one-fourth and allowing the liquid to cool, when the alkaloid will be precipitated. Solanin is in the form of a white powder or delicate needles, without odor, but of a bitter taste, soluble in alcohol, and slightly in water.

Form of preparation.— Trituration.

SOLANUM MAMMOSUM.

NIPPLE NIGHTSHADE.

An herbaceous plant, the stem of which is covered with hairy spines, and grows about two or three feet high. The leaves are lobed, heart-shaped, and yellow veined beneath, the midrib being beset with yellow spines. The flowers are pale gray and disposed in a pannicle. The fruit is pear-shaped and yellowish. It is found in the West Indies, and in this country in Virginia and the Carolinas.

Part used.—The ripe berries.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol.

SOLANUM NIGRUM.

BLACK NIGHTSHADE.

A plant growing in all parts of the world, except the northern and southern extremes. Its root is thready, woody, and branching, sending up an ovate, herbaceous, angular stem, one or two feet high, bearing angular, toothed leaves. The lamina of these are perforated, and the edges have the appearance of erosion. The flowers are white or pale violet, and disposed in nodding spikes. The fruit is a round, black berry, about the size of a pea.

Active principles.—See solanin.

Part used.—The fresh herb.

Form of preparation.—Tincture, dark brown color, made by expressing the juice, then adding an equal part of alcohol.

SOLANUM OLERACEUM.

GYQUIRIOBA. JUQERIOBA.

An herbaceous, creeping plant, covered with short, crooked thorns, and growing in damp, shaded places, in the vicinity of Rio Janeiro. Leaves, long, narrow, and dark green; flower, greenish white, and the fruit is a round, dark green berry, with white spots.

Part used.—The fresh blossoms.

Form of preparation.—Tincture, made by macerating one part in five of alcohol for two weeks; filter.

SOLANUM PSEUDOCAPSICUM.

JERUSALEM CHERRY.

A shrubby plant, a native of Madeira, varying from two to four feet high, with dark, evergreen leaves about two inches long. The flowers are white and drooping with orange colored anthers. The fruit is round and scarlet, resembling the common cherry.

Part used.—The entire plant.

Form of preparation.—Tincture made by macerating one part in two of alcohol, two weeks; filter.

SOLANUM TUBER ÆGROTANS.

The brown spots or byssus occurring in diseased potatoes.

Form of preparation.—Trituration.

SOLANUM TUBEROSUM.

POTATO.

This herbaceous plant has unequally segmented leaves, white flowers, and a tuberous root, and furnishes the well known article of diet.

Active principles.—Solanin. (Picroglycion).

Part used.—The leaves and stems.

Form of preparation.—Tincture, made by macerating in five parts of dilute alcohol one week; filter.

SPIGELIA ANTHELMINTICA.

SPIGELIA. PINKROOT. WORMGRASS.

A native of the West Indies and South America, having a hairy, blackish root, sending up stems fifteen or eighteen inches high. The leaves are paired and opposite, with four terminal, ovate, pointed ones, placed at right angles in the form of a cross. The flowers are white, and situated on long spikes at the summit. The seeds are small and black, and when freshly gathered exhale a fetid, disagreeable odor. Plant not analyzed ultimately.

Part used.—The herb, when in flower and seed.

Form of preparation.—Tincture, greenish-brown color and nauseous taste, made by macerating one part in five of alcohol, two weeks; filter.

SPONGIA TOSTA.

ROASTED SPONGE.

This is the fibrous dwelling or external skeleton of a polyp, inhabiting the bottom of warm seas. It is attached by a broad base to stones and rocks, and maintains a constant circulation of water through the numerous channels in its substance by means of ciliæ, at the same time abstracting nutrient particles from the aqueous current. For pharmaceautical purposes brown sponge only should be used as white sponge owes its color to muriatic acid. It should be thoroughly washed, cut into small pieces, roasted over burning coals, and then reduced to powder.

Form of preparation.—Trituration.

SOLIDAGO VIRGAUREA.

GOLDEN ROD.

This species of golden rod is common, both to Europe and this country, being most abundant, in the latter, among the lesser peaks of the White Mountains. The flexuous, furrowed stem is pubescent at the top; the inferior leaves are oval, and attenuated at both ends, the upper lanceolate. The flowers are yellow, and few in number; sometimes only a single one, and larger than those of any other of the many species.

Part used.—The fresh blossoms.

Form of preparation.—Tincture made by macerating one part in two of alcohol for two weeks; filter.

SPIRANTHES AUTUMNALIS.

Part used.—The recent plant.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol.

SQUILLÆ MARITIMA.

SCILLA MARATIMA. SQUILLS. SEA ONION.

This is a bulbous plant, growing on the coast of those countries bordering on the Mediterranean. The bulb is about the size of a fist, pear-shaped, covered with thin, membranous scales; gives off many fibrous roots, and contains a very acrid, excoriating juice. From the bulb a number of long, pointed, shining, deep green leaves arise, together with a round, smooth flower-stalk. This from one to three feet high, and crowned with a spike of white flowers, each of the latter being supported on a purplish stalk.

Active principle.—Scilletin.

Part used.—The bulb.

Form of preparation.—Tincture made by macerating one part in two of dilute alcohol for one week; filter.

STACHYS RECTA.

Part used.—The fresh plant in flower.

Form of preparation.—Tincture, made by macerating one part in two of alcohol.

STANNUM.

TIN.

Sn.

This metal is mined in Cornwall, Saxony, Bohemia, Mexico, South America, and the East Indies and also obtained from the bed of small

rivers. In this country it exists in New Hampshire and Missouri. It is a white metal, resembling silver, soft, malleable, has a slight taste and peculiar smell.

Form of preparation.—Trituration of fine filings. This will be found the most convenient. Granulated tin, or tin powder, may be obtained by melting the metal and stirring actively while cooling, in a wooden box. It may subsequently be graded in fineness by sifting.

STAPHYSAGRIA.

STAVES ACRE. PALMATE LARKSPUR.

The delphinium staphysagria is a native of southern Europe, the levant and the Canary Islands. The root is round, branching, and hairy. The stem is about one or two feet high, with five to seven lobed leaves on hairy leafstalks. The flowers are terminal, spurred, bluish or purplish, and attached to the flowering stem by long stalks. The fruit is an oblong capsule, containing irregular, angular, indented, brown seeds about the size of a grain of wheat, and has a slight odor and a hot, bitter taste.

Active principles.—Delphin. Delphinin (mono- bi- and ter-valerin. Staphysain.

Part used.—The seeds.

Form of preparation.—Tincture, made by macerating one part in five of alcohol for two weeks; filter.

STICTA PULMONARIA.

LUNGWORT.

A lichen existing on the trunks of trees, sometimes on rocks, but less frequently, when it is said to be sterile. It is lobed, dark green, and pitted on the upper surface; downy, and spotted with white elevations on the under side. The fruit caps are reddish.

Form of preparation.—Tincture, made by macerating one part of the moss in two parts of alcohol for two weeks; filter.

STILLINGIA SYLVATICA.

QUEEN'S ROOT. YAM ROOT. SILVER LEAF. QUEEN'S DELIGHT.

This indigenous plant grows in pine barrens and sandy soils from the Potomac southward. The root is thick and woody, from half an inch to an inch or more in thickness, and covered with a yellowish-brown bark externally, pinkish internally, with a bitter, pungent taste, and a slight odor. The stems are two or three feet high, with alternate, oblong leaves, and contain a milky juice. The flowers are yellow and arranged in a spike, the upper being male, the lower female.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part in five of alcohol two weeks; filter.

STRAMONIUM.

DATURA STRAMONIUM. THORN APPLE. JAMESTOWN WEED.

A coarse plant of common occurrence in rich, rank soil, both in Europe and this country, diffusing a disagreeable odor to a considerable distance. It grows about three feet high, with a smooth, hollow stem, and bears large ovate leaves. The flowers are solitary, funnel-shaped, bluish-white, and grow in the axils of the leaves, or at the ends of the branches.

Active principles.— Stramonin. Daturin (atropia).

Part used.—The entire plant when in flower.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol.

STRONTIUM OXIDUM.

OXIDE OF STRONTIUM. STRONTIA.

The nitrate of strontia is strongly heated in a crucible. Decomposition occurs, nitrous acid fumes are given off, and the grayish-white, spongy strontia remains.

Form of preparation.—Trituration of the spongy mass.

STRYCHNINUM.

STRYCHNINE.

$C_{21}H_{22}N_2O_2$.

This prominent alkaloid of nux vomica, and its congeners, is prepared by boiling the seeds of strychnios nux vomica, in dilute sulphuric acid until they become soft; crush and express liquid; mix with excess of hydrated lime. Strychnia and brucia are precipitated. Dissolve in alcohol. Strychnia remains undissolved; filter and dry.

Form of preparation.—Trituration.

STRONTIUM CARBONICUM.

CARBONATE OF STRONTIUM.

$SrO\ CO_2$.

This exists as a native salt, and is to be purchased of the chemists.

Form of preparation.—Trituration.

SULPHUR.

BRIMSTONE.

S

This element is widely diffused in all the natural kingdoms, alone

and in combination. As a simple element it is a bland, insoluble, odorous, fusible, inflammable, brittle, allotropic, neutral, yellow solid, having slight chemical affinities. In combination it forms the most powerful acid (sulphuric) and the most extensive and unstable of ores (sulphides). Its preparation is not in the province of pharmacy. Sulphur exists in commerce in two forms, viz., cast in cylinder form, known as roll of brimstome, and in crystalline powder obtained by sublimation, and called flowers of sulphur. Sulphur is a non-metallic substance of a bright yellow color, very inflammable, and has a slight taste and odor.

Form of preparation.—Trituration of washed flowers of sulphur. Tincture, made by digesting one part of flowers of sulphur in ten parts of alcohol for twenty-four hours, and then filtering.

[SULPHUR HYDROGENISATUM.

HYDROGENIUM SULPHIDUM. SULPHURETTED HYDROGEN.

H_2S.

Place a small quantity of iron sulphide in a Marsh test apparatus, add dilute sulphuric acid, heat. Place the end of the exit tube under water—which soon becomes saturated with the fumes. The stench will indicate its production. It is the odorous product of decomposing organic matter, and is present in many mineral springs, and with soluble metallic salts throws down insoluble sulphides. It is a colorless gas, burning with a blue flame.

Form of preparation.—Saturated solution in water. Keep the bottle upside down in water. Some sulphur will usually precipitate. Must be freshly prepared frequently.

SULPHURIC ACID.

OIL OF VITRIOL.

H_2SO_4

A heavy, colorless, oily liquid, having a sour taste, and a corrosive action on organic tissues, abstracting the water and converting them into carbon. It is prepared by burning a mixture of sulphur and nitre over a sheet of water, in a leaden chamber. When the water becomes sufficiently charged it is transferred to leaden and glass retorts, and heated until the water has been distilled over. It is then shipped in boxed glass demijohns called carboys.

Form of preparation.—Aqueous solution.

SUMBUL.

MUSK ROOT. JATAMANSI.

An unknown plant growing in northern India, and the countries lying north and east of it, as Nepaul, Bootan, Bucharia, etc. It

possesses an odor like musk, and has a sweetish, afterward, balsam-like taste.

Part used.—The root.

Form of preparation.—Tincture, pale brown, made by macerating one part in five of alcohol.

SYMPHYTUM OFFICINALE.

COMFREY.

A coarse plant found in Europe, England, Ireland and Asia, and growing in the middle states of this country. It rises from two to four feet in height, and is covered with dense, rough hairs. The leaves are broad, lanceolate, six to ten inches long, and taper to a point. The flowers are either pale yellow, or white, pink and red. The root is thick, and contains a large amount of mucilage.

Part used.—The root gathered just before flowering time.

Form of preparation.—Tincture, brown; made by macerating one part in two of alcohol, two weeks; filter.

TABACUM.

TOBACCO. NICOTINA TABACUM.

This plant is a native of this country and also cultivated, but especially in the southern states. The root is large and fibrous, sending up an erect, hairy stem, from three to six feet high, bearing a number of large leaves, some measuring two feet in length. The flowers are bell-shaped, tubular, hairy, and rose-colored. The fruit is a two celled capsule, containing a number of kidney-shaped seeds. The whole plant has a nauseous, disagreeable odor.

Active principles.—Nicotina. Nicotiana.

Part used.—The fresh leaves gathered in July or August.

Form of preparation.—Tincture, brownish-green, made by macerating one part in five of alcohol two weeks; filter.

TAMUS COMMUNIS.

BLACK BRYONY.

Part used.—The root.

Form of preparation.—Tincture.

TARANTULA.

A venomous spider found in the West Indies, Mexico and California.

Part used.—The entire living insect.

Form of preparation.—Tincture, made by macerating one part by weight, in five of alcohol one week; filter.

TANACETUM VULGARE.

TANSY.

This plant is a native of Europe, and also grows in the United States, both in the wild and cultivated state. The root is creeping and sends up a number of six-sided, clustered stems, two or three feet high, having smooth, incised, dark green leaves. The flowers are terminal, golden yellow, and disposed in many heads. The whole plant has an aromatic odor, and a pungent, bitter taste.

Part used.—The fresh leaves and flowers.

Form of preparation.—Tincture, greenish-yellow color, made by macerating one part in two of alcohol.

TANNIN.

TANNIC ACID.

This is obtained from nutgalls by treating them with ether, expressing the liquor and repeating the process, then evaporating and drying on glass or tin plates. It is a white or yellowish powder, strongly astringent, but without bitterness. It is soluble in water, less so in alcohol. (See Gallic acid).

Form of preparation.—Trituration.

TARAXICUM.

LEONTODON TARAXICUM. DANDELION.

This herbaceous plant grows in nearly all parts of the world. The perennial root is fusiform, several inches long, about the thickness of a little finger, and contains a milky juice. The radical leaves are long, sharply toothed, and from their fancied resemblance to the teeth of a lion, the name of leontodon has been bestowed upon the plant. The flower-stalk is about six inches high, hollow, smooth, furnished with a milky fluid, and bears a yellow flower. The seeds are feathery, attached by silky fibres, and are disposed in a globular form.

Part used.—The fresh plant before flowering.

Form of preparation.—Tincture, light, yellow-brown color, made by expressing the juice, then adding an equal part of alcohol. Also by macerating one part in five parts of dilute alcohol for two weeks, and filtering.

TAXUS BACCATA.

YEW TREE.

An ordinary sized tree often reaching a great age. The trunk is thick and thickly branching, with leaves from half an inch to three-quarters of an inch long, inserted in all parts of the branches. The flowers are small and grow in the axils of the leaves. The fruit is a parti-colored berry, and the seeds are very poisonous.

Part used.—The young shoots, leaves and berries (equal parts) gathered in March and April.

Form of preparation.—Tincture, dark brown color, made by expressing the juice, and mixing with two-thirds its weight of alcohol.

TELLURIUM.

Te

A brittle metal having the color and lustre of silver, but being a bad conductor of heat and electricity. It is a rare metal, being only found in a few scarce minerals, and most easily procurable from the bismuth sulpho-telluride of Chemnitz.

Form of preparation.—Trituration.

TEREBINTHINA.

TURPENTINE.

$C_{10}H_{16}$

White turpentine is the concrete juice of the pine, fir, etc., and gathered in the states of North Carolina, Georgia, Florida, and the southern part of Virginia. It is subjected to distillation, and yields the liquid known as oil of turpentine. This is a limpid, colorless fluid, having a strong, pungent odor, and a pungent, bitter taste. Turpentine is also obtained in various parts of Europe, the Island of Scio and the East Indies.

Form of preparation.—Dilution in alcohol for the first attenuation.

TETRADYMITE.

TEUCRIUM MARUM VERUM.

CAT THYME. GERAMNDER.

A shrub growing wild in the levant, Spain, Germany and France, being also cultivated in the last named countries. The flowers are situated at the end of the branches, in the axillæ of the leaves, and are of a rosy color. The entire plant exhales a peculiar, aromatic odor.

Part used.—The entire plant (except root) when flowering in July and August.

Form of preparation.—Tincture made by expressing the juice, then adding an equal part of alcohol. By macerating in five parts of alcohol for two weeks, and filtering.

THALLIUM.

Tl.

A metal found in iron and copper pyrites and in lesser amount in the mica of Bohemia, the lepidolite of Moravia, and the water of the salt works at Nauheim. It is a soft, heavy, malleable, crystalline metal, has a metallic lustre which tarnishes by exposure, imparts an intense, green color to a colorless flame, and marks paper like plumbago.

Form of preparation.— Trituration.

THASPIUM AUREUM.

ZIZIA AUREA. GOLDEN ALEXANDER. MEADOW PARSNIP.

This plant has heretofore been known as zizea aurea, but it is now classified by botanists under the genus thaspium. It is a slender plant, growing in Canada and this country, upon hills and meadows, and varies from one to two feet in height. The stems are upright, hollow, furrowed, and few leaved. The flowers are numerous and orange-yellow. The fruit is oblong, with ten-winged ridges.

Part used.— The recent plant.

Form of preparation.— Tincture made by macerating one part in two of alcohol, two weeks; filter.

THEA VIRIDIS.

GREEN TEA.

This is an evergreen shrub, a native of China and Japan, usually from four to eight feet high, with delicately serrated, pointed leaves, of a rich greenish or dark brown color, and about two or three inches long. The flowers are either solitary or in twos and threes, in the axils of the leaves, snow white in color, and resemble the dog rose. The fruit is a three-celled, three-seeded capsule.

Active principles.—Thein, and numerous extractives.

Part used.—The leaves.

Form of preparation.— Tincture, made by macerating one part in two of dilute alcohol, for one week; filter.

THEIN.

The active principle of tea, coffee, mate, and other plants.

Form of preparation.—Trituration.

THERIDION CURASSAVICUM.

BLACK SPIDER OF CURACOA.

A spider about the size of a cherry stone, and found on orange trees in the West Indies. When young it is velvety-black in appearance, marked with antero-posterior lines composed of white dots. At

the posterior part of the body there are three orange red spots, while upon the belly there is a large, square, yellow spot.

Part used.— The living spider.

Form of preparation.—One part by weight in five parts of alcohol.

THLASPI BURSA PASTORIS.

SHEPHERD'S PURSE.

A plant growing both in Europe and in this country where it has become naturalized, and varying from six inches to a foot high. The radical leaves are clustered, radiate, segmented, and from two to eight inches long, but are wanting if the plant is crowded. The stem leaves are small, arrow-shaped and narrow, and the flowers are small, white, and arranged in racemes. The fruit is a small pod tipped with the style.

Active principles.—Volatile oil and bitter extractives.

Part used.—The whole plant.

Form of preparation.—Tincture, made by macerating one part in five of alcohol two weeks; filter.

THUYA OCCIDENTALIS.

ARBOR VITÆ.

This is an evergreen shrub, a native of Canada, but cultivated in all parts of Europe and this country. It rises three, four, or five feet high, with a woody stem, flat branches, short, flat, evergreen leaves, and bears brownish-yellow cones. It is to be distinguished from the thuya of China.

Active principles.—Pinipicrin. Thujine. Thujetine. Thujetic acid, all crystalline, yellow, definite compounds.

Part used.—The young shoots gathered in May.

Form of preparation.—Tincture, dark green color, made by expressing the juice, then adding two-thirds its weight of alcohol. Also by macerating in five parts of alcohol two weeks; filter.

TILIA EUROPÆA.

LIME TREE.

This tree is about sixty or seventy feet high, but sometimes attains greater proportions. The leaves are heart-shaped or nearly round, oblique and pointed. The flowers are of a pale, whitish-green color and very fragrant. The lime or fruit is a nut, downy when young.

Part used.—The flowers.

Form of preparation.—Tincture, made by macerating one part in two of alcohol two weeks; filter.

TITANIUM.

Ti.

This metal is never found in the metallic form, but exists in such minerals as rutile, brookite, anatase and certain iron ores. It is somewhat analogous to tin.

Form of preparation.—Trituration.

TONGO.

TONKA BEAN. TONQUIN BEAN.

This bean is afforded by a lofty tree, a native of Cayenne and South America, having a hard, white bark, and a white wood. The bean is from an inch to an inch and a half long, and less than half an inch thick, flattened, having a dark-brown, wrinkled, brittled skin, and an oily, light-brown kernel of a strong, aromatic odor.

Active principle.—Co(u)marin, common in many plants, crystalizable, straw yellow.

Form of preparation.—Tincture, made by macerating one part of the seeds, in five of alcohol, two weeks; filter.

TRACHINUS.

TRADESCANTIA.

TRIFOLEUM PRATENSE.

RED CLOVER.

A familiar little plant, cultivated for fodder, and seen everywhere. There are several stems springing from the same root, all haiyr, have their oval or obovate leaves arranged in threes, and bear red or pinkish flowers, in dense spikes or heads, at their summit.

Part used.—The flower.

Form of preparation.—Tincture, by macerating one part in two of dilute alcohol two weeks; filter.

TRIFOLIUM REPENS.

WHITE CLOVER.

A variety of the trifolii analogous to T. pratense in preparation.

TRILLIUM PENDULUM.

LAMB'S QUARTER. INDIAN BALM. GROUND LILY. BETH ROOT.

This plant is indigenous in the middle and western states and has an oblong tuberous root. The stem is ten or fifteen inches high, with the leaves disposed in whorls at the summit. The flowers are white, solitary, terminal, and about two and a half inches long.

Active principles.—Trillin is a resinoid extractive. Its unnamed alkaloid is isomeric with polygallic acid (saponin, senegin).

Part used.—The fresh root.

Form of preparation.—Tincture, made by macerating one part in two of alcohol, two weeks; filter.

TRIOSTEUM PERFOLIATUM.

FEVERWORT. WILD IPECAC. FEVER ROOT.

An indigenous plant, having a branching, horizontal root, about a foot and a half long, and thick and tuberculated near the origin of the stems. These are from two to four feet high, and hollow, pliant, hairy, and are furnished with oval, prominently veined leaves, six inches long. The flowers are axillary, whorled in threes and fives, and of a dull, purplish color. The fruit is an oval, orange-red or purple berry, less than an inch long, hairy, three-sided and three-seeded.

Part used.—The recent root.

Form of preparation.—Tincture made by macerating one part in two parts of alcohol, two weeks; filter.

TUSSILAGO PETASITES.

BUTTER BURR.

The flowering stems of this plant are about a foot high, and bear a number of flower heads of a dull, pinkish color.

Part used.—The entire plant.

Form of preparation.—Tincture made by macerating one part in five of alcohol, two weeks; filter.

URANIUM NITRICUM.

NITRATE OF URANIUM.

$(U_2 O_2) 2NO_3 6H_2 O$

Uranium is a metal principally obtained from pitchblende, and this salt is prepared by dissolving the metal in nitric acid, evaporating to dryness, dissolving in water, filtering and evaporating to crystallization. It is in the form of lemon-yellow, prismatic, deliquescent crystals, soluble in water and alcohol. Preparations of this salt should be kept from the light.

Form of preparation.—Trituration.

UROLITHIN.

Form of preparation.—

URTICA URENS.

URTICA MINOR. STINGING NETTLE.

A plant found in all parts of Europe and the United States, grow-

ing by the roadsides in hedges and is about a foot in height. The stem is round and pointed, and is furnished with oval, elliptical leaves. It is covered with stiff, sharp, stinging hairs that contain formic acid.

Active principles.— Volatile oil. Unnamed, definite, basic principle.

Part used.—The recent plant.

Form of preparation.—Tincture, yellowish-green, made by expressing the juice, then adding an equal part of alcohol.

USTILAGO MADIS.

CORN SMUT. MAIZE SMUT.

This is a fungous growth attaching itself to the stalk or the germen of corn. It sometimes becomes the size of an orange, or even larger, is covered with a dark gray or brown epidermis. Within, it is black, pulverulent, and looks like soot. It contains ergotin.

Form of preparation.—Tincture made by macerating one part in five of alcohol for two weeks; filter.

UVA URSI.

BEARBERRY.

Grows in the northern latitudes of Europe, Asia and this continent, and prefers a sandy or gravelly soil. It is cultivated successfully in the state of New Jersey. It is a low, evergreen shrub; the stems are trailing, with shining, dark green leaves, having a bitter, astringent taste. The flowers are small, reddish-white and clustering. The fruit or berries are small, round, glossy, scarlet, and five seeded.

Active principles.—Ursin. Ursone. Arctuvin and arbutin, (glucosides of hydrokinone).

Part used.—The leaves.

Form of preparation.—Tincture, yellowish-brown color and astringent taste, made by macerating one part in five of alcohol for two weeks; filter.

VALERIANA OFFICINALIS.

VALERIAN.

A plant growing in Great Britain, Europe and many parts of the United States, particularly in Vermont and northern New York. The root is cylindrical with many, brownish, scaly branches. The stem is from two to four feet high, having numerous, radical leaves and smaller, opposite leaves on the stem proper. The flowers are fragrant, white or rose-colored, and disposed in terminal corymbs. The fruit is a capsule containing a single, compressed seed.

Active principles.—Valerianic or valeric acid. (Baldrianic, delphinic, phosenic acids).

Part used.—The root.

Form of preparation.—Tincture. reddish-brown, made by macerating one part in five of alcohol, two weeks, and filter.

VERATRINUM.

VERATRUM ALBUM.

WHITE HELLEBORE.

This plant is indigenous among the Alps, Pyrenees, Vosges, and other mountainous regions of Europe. The root or rhizome is yellowish-white externally, pale, yellowish-gray within, and sends out numerous, grayish, fibrous radicles. It has a disagreeable odor, and a sweetish, afterward bitter, burning taste. The stem is thick, rises three or four feet high, with alternate, entire, oval, plaited, yellowish-green leaves, about ten inches long and five in width. The flowers are greenish, terminal, and arranged in a panicle. The fruit is oval, three celled and many seeded.

Active principles.—Jeveric acid Jervina. Barytina. Jervate of Veratrin. Veratric acid. Veratrin.

Part used.—The root.

Form of preparation.—Tincture, yellowish-brown, burning taste, made by macerating one part in five of alcohol two weeks; filter.

VERATRUM VIRIDE.

GREEN HELLEBORE. AMERICAN HELLEBORE. SWAMP HELLEBORE. INDIAN POKE ROOT.

This weed somewhat resembles the V. album, and is found from Canada southward to the Carolinas, growing in stony or wet situations, wet meadows, mountain streamsides. The root is thick and fleshy, sending out many fine radicles, and is of a yellowish color. The stem, ranging from three to six feet high, is supplied with bright green leaves, decreasing in size as they ascend, the lower ones being six or eight inches long, and embrace the stem. The flowers are paniculated. The fruit is composed of three capsules adhering to one another, and contain a number of flat seeds.

Active principles.—Much the same as V. album, with addition of a medicinal resin, and other obscure extractives.

Part used.- - The root.

Form of preparation.—Tincture made by macerating one part in five of alcohol.

VERBASCUM THAPSUS.

MULLEIN.

This plant is of frequent occurrence along roadsides, in fields, etc.,

in all parts of this country. The stem is from two to four feet high, woody and coarse, with large, coarse, oblong, toothed leaves. The flowers are yellow and disposed on a long, terminal spike.

Part used.—The plant beginning to flower in July.

Form of preparation.—Tincture, dark yellow-brown color, made by expressing the juice, then adding an equal part of alcohol.

VERBENA OFFICINALIS.

VERBENA. VERVAIN.

A common weed, growing by the roadside, and in the vicinity of small towns in various parts of Europe. It is about three or four feet high, having opposite branches, and rough, opposite leaves. The leaves are small, blue, and in long, close spikes.

Part used.—The fresh herb.

Form of preparation.—Tincture made by expressing the juice, then adding two-thirds its weight of alcohol.

VERONICA OFFICINALIS.

SPEEDWELL.

Part used.—The fresh plant.

Form of preparation.—Tincture, made by expressing the juice, then adding two-thirds its weight of alcohol.

VIBURNUM OPULIS.

HIGH CRANBERRY.

A shrub growing in the northern states of this country, and British America. The stems are from eight to twelve feet high, with smooth, gray, spreading branches, having smooth, three-lobed, blunt-toothed leaves, broader than long, and from three to five inches in diameter. The flowers are arranged in a cyme, with the fertile ones in the centre, and the white bordering ones sterile. The fruit is about the size and color of the common cranberry, sour to the taste, and remains on the bush after the leaves are gone.

Part used.—The berries and leaves, equal parts.

Form of preparation.—Tincture, by macerating one part in two of dilute alcohol for two weeks; filter.

VIBURNUM PRUNIFOLIUM.

BLACK HAW. SLOE.

A shrub or small tree, varying in height from eight to fifteen feet, and found in woods and thickets. The branches are numerous and spreading, with short, lateral, almost thorny spurs, and smooth, rounded leaves, one or two inches long. The fruit is bluish-black and about one-third of an inch in length.

Part used.—The leaves.

Form of preparation.— Tincture, made by macerating one part in five of dilute alcohol, for two weeks ; filter.

VINCA MINOR.

LESSER PERIWINKLE. WINTERGREEN.

This trailing, evergreen plant is a native of Europe, growing in hedges and deep woods. The root is creeping, and gives rise to a stem several feet in length. The leaves are opposite, oblong, smooth, and shining ; flowers are axillary, alternate, bell-shaped, violet or blue. It should be distinguished from vinca major, or the greater periwinkle.

Part used.—The plant, gathered when flowering.

Form of preparation.— Tincture made by expressing the juice, then adding two-thirds its weight of alcohol. Color brownish green

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VIOLA ODORATA.

VIOLET.

A creeping plant, growing wild on river banks, in hedges and woods, in most parts of Europe and Russian Asia. It is also cultivated. The root is short, branched, and knotty. The stems or runners are long or creeping, with broad, heart-shaped, downy leaves, in terminal tufts, and supported on long stalks. The flowers are nodding, fragrant, violet or white, and placed upon long quadrangular, channelled stalks.

Part used.—The whole fresh plant, gathered when in bloom, in March or April.

Form of preparation.—Tincture, made by expressing the juice, then adding an equal part of alcohol. Dark brown color.

VIOLA TRICOLOR.

HEART'S-EASE. PANSY. JACEA.

This plant occurs in various parts of Europe, Great Britain and Asia, and is also cultivated in the flower garden everywhere. The root is branching and hairy, with a triangular, sometimes quadrangular stem, supporting heart-shaped, crenate leaves, and large, deeply-lobed stipules, or rudimentary leaves. When rubbed, an odor is developed similar to that of peach kernels. The flowers are situated at the summit of the stems. Jahr directs that the yellow and white variety be used.

Part used.—The entire fresh plant.

Form of preparation.—Tincture made by macerating one part in two of alcohol for two weeks, and filtering.

VIPERA REDI.

AN ITALIAN VIPER.

Part used.—The virus.

Form of preparation.— Trituration made by rubbing together in a mortar, one drop of the poison with ninety-nine grains of sugar of milk.

VIPERA TORVA.

A GERMAN VIPER.

Part used.—The virus.

Form of preparation.—Trituration, made by rubbing together in a mortar one drop of the poison with ninety-nine grains of sugar of milk.

VISCUM ALBUM.

MISTLETOE.

A parasitic plant growing on the bark of the oak, and various other trees, but more generally on that of the apple tree. It is common in England, and of frequent occurrence in central Europe. The leaves are entire, thick, and vary from narrow to broad. The fruit or berries, about the size of a pea, are white, semi-transparent, abound with a viscid principle, and contain a solitary seed; they are used in the preparation of bird-lime.

Part used.—The leaves and berries, (equal parts), gathered in November.

Form of preparation.—Tincture, made by macerating one part in five parts of alcohol for two weeks, and filtering.

WYETHIA HELENOIDES.

POISON WEED.

Part used.—The fresh root.

Form of preparation.—Tincture made by macerating one part in five parts of alcohol for two weeks; filter.

XANTHOXYLUM FRAXINEUM.

PRICKLY ASH. TOOTHACHE TREE.

A shrub about ten feet high, with alternate branches and strong prickles, in irregular pairs. The alternate leaves are composed of serrated, five paired leaflets, with an odd one. The leaf-stalks are round and generally prickly on the back. The flowers are in small, dense clusters, situated near the origin of the young branches. greenish in color, and have an aromatic odor. The fruit is a two valved capsule, containing an oval, shining, black seed. The bark is covered with an ash colored epidermis, whitish or glossy on the inner surface, and has a bitter, aromatic taste. The plant is found from Canada to Virginia, and as far west as the Mississippi river.

Active principles.—Xanthoxylin, an alkaloid. Xanthoxylene. Xanthopicrite. (Berberina).

Part used.—The bark.

Form of preparation.—Tincture made by macerating one part in five parts of alcohol for two weeks; filter.

ZINCUM.

ZINC.

This metal exists, in nature, in the form of a carbonate, silicate, and sulphide. The two former are called calamine, the latter is known as blende. The sulphide is the one most used to procure the metal, and is obtained by roasting the ore in iron cylinders, by which the zinc is voltatilized, and then condensed. The same process is repeated to expel all foreign matter. It is a soft, bluish-white, crystaline metal, having a peculiar taste and odor, the latter particularly marked on rubbing.

Form of preparation.—Trituration of fine filings of the metal.

ZINCUM ACETICUM

ACETATE OF ZINC.

$Zn_2\ C_2\ H_3\ O_2,\ 3\ H_2\ O$

Prepared by mixing together oxide of zinc, acetic acid and distilled water, allowing the water to digest for a time, and then heating to the boiling point, filtering while hot, and allowing it to cool and crystallize. The crystals are afterwards, drained in a funnel and dried. It is then in thin, colorless plates or white crystals, having an astringent, metallic taste, and soluble in water and alcohol.

Form of preparation.—Trituration.

ZINCUM CYANIDUM.

CYANIDE OF ZINC.

$Zn_2\ C\ N$

Produced when a filtered solution of cyanide of potassium is gradually added to a solution of sulphate of zinc, the resulting precipitate being carefully dried. It is a white powder, insoluble in water.

Form of preparation.—Trituration.

ZINCUM IODIDUM.

IODIDE OF ZINC.

$Zn\ I_2$

This is prepared by allowing metallic zinc to digest in iodinized water; it is also formed by the combination of zinc and iodine during the application of heat, while contained in a mattress. It is afterwards sublimed and is deposited in the form of white needles.

Form of preparation.—Trituration.

ZINCUM MURIATICUM.

CHLORIDE OF ZINC. BUTTER OF ZINC.

$Zn\ Cl_2$

To prepare this, a solution of chloride of zinc is evaporated to dryness, in an evaporating dish, and then fused. The molten mass is then poured upon a flat stone to cool; and when it has hardened, is broken to pieces and bottled. It is in white, amorphous or granular masses, or in cylinders and tablets, deliquescent, caustic, and soluble in alcohol and water.

Form of preparation.—Trituration. Aqueous solution.

ZINCUM VALERIANICUM.

VALERIANATE OF ZINC.

$Zn\ 2C_5\ H_9\ O_2$

Obtained by separately dissolving sulphate of zinc and valerianate of soda, heating both of these to the boiling point and then mixing. On cooling it forms in white, pearly scales, which are then to be skimmed off. They have the smell of valerianic acid, possess a metallic taste, and are soluble in alcohol and water.

Form of preparation.— Trituration.

ZINCUM SULPHURICUM.

SULPHATE OF ZINC. WHITE VITRIOL.

$Zn\ SO_4\ 7H_2\ O$

This salt is obtained by dissolving granulated zinc in sulphuric acid and distilled water, aided by heat; the liquid is then filtered, and a solution of chlorine is gradually added, after which carbonate of zinc is mixed in, until a brown sediment appears. It is again filtered, evaporated to concentration, and allowed to crystallize. It is made on a large scale by roasting blende, in a reverberatory furnace. It is also procured by dissolving the metal in dilute sulphuric acid and crystallizing.

Form of preparation.—Trituration.

ZINGIBER OFFICINALE.

GINGER.

This is a native of Hindostan, and is grown extensively in the West Indies, particularly Jamaica; and in Sierra Leone, Africa. The root is creeping and tuberous, sending up a stem two or three feet high, with smooth, lance-shaped leaves, five or six inches long, and standing alternately on either side of the stem. The flower stalk is from six to twelve inches high, has no leaves, and bears a terminal spike of dingy, yellow flowers. That grown in Jamaica is most esteemed, and is deprived of its epidermis and dried. It is flattened, white, smooth,

and possesses a hot, pungent taste. The East India ginger is generally black, although there is an uncoated, gray variety.

Active principle.—A volatile oil.

Part used.—The root.

Form of preparation.—Tincture, made by macerating one part in five of alcohol, two weeks; filter.

ZIZIA AUREA.

(See Thaspium aureum.)

SPECIAL PREPARATIONS.

EXTERNAL APPLICATIONS.

Many of these act upon the principle of absorption; others by preventing the access of air, or by suspending the functions of the skin. They usually consist of cerates, ointments, liniments, lotions, glyceroles, poultices, plasters, etc. These are rarely prescribed in Homœopathic practice, but enter largely into domestic treatment.

CERATES.

The cerate is an application to the skin or mucous membrane, sufficiently firm not to melt at the temperature of the skin, and yet be readily applied with the spatula or fingers. The most common base of the cerate is lard, which should be of the purest description. The usual hardening ingredient is white or yellow wax, yellow being the best. Olive or almond oil, in the place of lard, and spermaceti or fine grade of paraffin in the place of wax, produces a finer grade of cerates. The proportions of the latter ingredients do not correspond with those of wax and lard. Nor is it essential that the proportions should always be the same. Spermaceti should not be used unless its melting point is up to or above 100°F. A little resin is sometimes added to make the combination firmer.

Spermaceti and olive oil may wholly displace the lard by melting one part of spermaceti to three of wax and five of olive or almond oil.

"Sweet" almond oil is alone used as a constituent of the common external applications.

"Simple cerate" is composed of lard and wax, in the proportion of one to two, and is usually used for subsequent medication. Individual skill or special requirements may modify this by keeping in mind that oils soften, and wax and paraffins harden. Melt the ingredients

over a very slow fire, or better still, with a sand bath. Add the medicine while the cerate is cooling, stirring constantly.

Cosmoline is now extensively used in the preparation of cerates.

Arnica Cerate.—Take of arnica tincture one fluid ounce, simple cerate one pound, or

Take of arnica flowers and arnica leaves, each one ounce, simple cerate one pound. Strain an infusion of the arnica, evaporate slowly to two ounces, and add to melted cerate. Stir till cold.

Æsculus cerate.—Take of tincture of æsculus hippocastanum one ounce, simple cerate, or spermaceti cerate, one pound, glycerine one ounce, yellow wax one ounce. Mix tincture and glycerine, and add to the melted cerate and wax. Stir until old.

Calendula cerate.—Same proportions as arnica cerate.

Cerate of Graphites.—Take of finely triturated graphites one ounce, glycerine one ounce, yellow wax one ounce, spermaceti cerate fourteen ounces. Mix the graphites with the glycerine, by the aid of alcohol if necessary. Add it to the melted wax and cerate, and stir until cool.

Hamamelis cerate.—Same formula as æsculus.

Lycopersicum cerate.—Same formula as æsculus, using the ripe fruit.

Spermaceti cerate.—Take of spermaceti one ounce, yellow wax three ounces, olive oil five ounces. Melt spermaceti and wax slowly and completely, and then add oil. Medicines may be added in the proportion of one-half ounce of tincture to the above formula, where peculiar properties do not otherwise indicate.

Urtica cerate.—Take of urtica urens tincture one ounce, glycerine one ounce, spermaceti cerate fourteen ounces, yellow wax two ounces. Melt the cerate and wax separately, unite, then add the tincture.

OINTMENTS,

Differ from cerates only by being softer. They include many uncombined substances, like glycerine, cosmoline and other soft paraffins, butters, lower grades of spermaceti, oils, heavy, liquid, coal products, etc., but not the essential oils. To prepare them from the ingredients of cerates, add more oil and less wax. The tendency to decomposition increases as fluidity increases, and this may be counteracted by adding a few grains of powdered slippery elm, to the melted ingredients. Rancidity may thus be prevented for a long time. The medicine should be added to the melted liquid, stirring until cold.

Cosmoline and analogous paraffins make the purest, blandest, and

most "penetrating" base for ointments. Medicines added to cosmoline, and stirring, whiten it. It may be used on the tenderest membranes.

Simple ointment.—Take of lard eight ounces, wax two ounces. Melt slowly. Or,

Take of wax two ounces, lard three ounces, almond oil, or sweet oil, three ounces. Melt lard and wax first, then add oil.

Belladonna ointment.—Take of belladonna extract one drachm, glycerine one drachm, simple ointment six drachms. Mix as in hep. sulph. ointment.

Bismuth ointment.—Take of nitrate of bismuth thirty grains, simple ointment one ounce. Mix with gentle heat stirring until thoroughly incorporated.

Hepar sulphur ointment.—Take of hepar sulphur three grains, glycerine fifteen drops, simple ointment one ounce. Mix glycerine and sulphur with a spatula, and add to melted cerate. Stir while cooling.

Iodide of mercury ointment.—Take of the biniodide of mercury two grains, glycerine fifteen drops, simple ointment two ounces. Mix as with hep. sulph. ointment.

Rose water ointment.—Cold cream.—Take of almond oil three and one-half ounces, spermaceti one ounce, wax two ounces, rose water two ounces. Add the rose water after the other ingredients are melted, and stir in while cooling.

Rumex ointment.—Tincture rumex crisp. two ounces, glycerine one ounce, almond oil sixteen ounces. Mix cold, apply gentle heat, and stir until thoroughly incorporated.

Sulphur ointment.—Take of flowers of sulphur one ounce, glycerine one ounce, simple ointment fourteen ounces. Mix as with hep. sulph. ointment.

LINIMENTS.

These constitute a varied class of applications, being more liquid than ointments, and frequently lighter than water. Technically, the "volatile liniment" is the type, implying a material which can be rapidly spread over a surface while its menstruum evaporates; and includes some emulsions. The latter are usually classed separately, but for external use may come under the head of liniments. Their preparation is as various as the requirements which call for them. The menstruum or vehicle may be water, alcohol, ether, ammonia, chloroform, acetic acid, mineral acid and alkalies, alcoholic liquor, etc. The added substance is generally the fixed or essential oil of the plant which it is desired to use; or the medicine dissolved or mixed with such bland oils as olive or almond.

LOTIONS.

Lotions differ from liniments in being simply unmixed, but diluted, officinal preparations — as tinctures. They are thus named, when diluted with the fluid menstruum in which they are originally prepared. A tincture prepared with dilute alcohol must be reduced with the same solvent, and aqueous solutions with water only. There are no grades of strength for lotions. The pure tincture may be used as with calendula or arnica in some cases, or excessive dilution, as with carbolic acid over ulcerous surfaces.

EMULSIONS

Many of these come under the head of liniments. The "emulsion" proper has a small place in Homœopathic pharmacy. It implies the suspension of insolubles in liquid by means of a third substance, as gum, sugar, albumen, gelatin. The substance should be thoroughly incorporated into the gummy medium before adding water.

GLYCEROLES.

Of late years glycerine has entered largely into pharmacy, on account of its solvent powers.

Glycerine.—Propenyl alcohol, or glycerine, is a constituent of fats, and is procured by the action of alkalies, usually, upon stearin. It is a colorless, viscid liquid, uncrystallizable, intensely sweet, will not ferment, but under the conditions of fermentation (mixture with yeast, etc.) changes into propionic acid. It is neutral. It should yield no precipitate with nitrate of silver. Soluble in water and alcohol, but not in ether.

Glyceroles are, in general, the admixture of any medicine in it, in almost any soluble proportion; but their chief usefulness is in the direction of substances to which glycerine has a special affinity.

Glycerole of starch.—Take of pulverized starch one ounce, glycerine eight ounces. Triturate, then stir over a fire until the starch granules burst and a clear jelly is formed. May be medicated by adding one drachm of tincture to the ounce of glycerole.

Glycerole of borax.—Take of borax one ounce, glycerine three and one half ounces, water one half ounce. Dissolve.

Glycerole of Hamamelis.—Take of hamamelis tincture one ounce, glycerole of starch three ounces. Mix.

Glycerole of Hydrastis.—Take of hydrastis tincture one ounce, glycerine four ounces. Mix.

Glycerole of Phytolacca.—Take of phytolacca tincture one ounce, glycerine four ounces. Mix.

OXYMELS

Are mixtures of honey, vinegar, and the desired medicine. There are few of them, and their usefulness is a question.

INJECTIONS.

By the term injection is understood the propulsion of fluid into the body by natural or artificial orifices, and syringes are used for the purpose. Flexible rubber syringes are preferable wherever they can be used.

RECTAL INJECTIONS, OR ENEMAS.

These are therapeutic, when intended to introduce medicines, and mechanical when used for loosening the contents of the bowels, or stimulating the vermicular motion. They are also nutritive, by the introduction of food.

A very soothing, loosening and nutritive injection is an emulsion of two parts of warm water, a teaspoonful of sugar, and one part of olive oil. Emulsify by rapid action of the syringe, and inject. It may be absorbed a considerable distance before producing stool, by which its influence lasts longer. Flexible syringes should be well rinsed after using oils, as they soften the rubber.

Soap suds, from water and castile soap, is also a convenient injection for immediate action.

Starch injections are soothing and nutritious.

Medicines may be readily incorporated into injection fluids.

Starch injection.—Take of fine starch one teaspoonful, water twelve ounces. Boil slightly, and add one teaspoonful of glycerine.

Olive oil injection.—Take of olive oil two ounces, warm water four ounces, sugar or glycerine, one teaspoonful. Mix to an emulsion.

Gelatine injection.—Take of isinglass two drachms, cut into shreds, water one pint. Dissolve. Medicines to be added may be dissolved in glycerine.

VAGINAL INJECTIONS

Are used as washes, in quantities of a pint or more, or direct applications. Water dilutes for the former, glycerine adds consistency. They are as various as the remedies prescribed for catarrhal diseases of the female generative organs. Lukewarm water, with a little glycerine, is the best vehicle. A common formula is

Glycerine injection.—Glycerine one ounce, water ten ounces, tincture of the medicine one drachm. Reduce proportions for small syringe.

Hydrastis injection.—Take of hydrastis powder three to five grains, or tincture as below, glycerine one teaspoonful, water one pint.

Half an ounce of tincture may be used in place of the powder. For use with a piston syringe, reduce the proportions accordingly, adding more than the proportional amount of glycerine.

URETHRAL INJECTIONS.

Hydrastis injections.—Take of tincture of hydrastis one drachm, glycerine two drachms, water half an ounce.

Permanganate of potash injection.—Take of permanganate of potash crystals five to ten grains, water one ounce; dissolve.

Tannin injection.—Tannic acid one-half ounce, glycerine two ounces, olive oil one ounce, mucilage one ounce.

Chloride of zinc injection.—Take of chloride of zinc eight grains, water eight ounces; dissolve.

SPRAYS.

Medicated liquids, divided into fine spray for local application to diseased surfaces, are now in frequent use. The simple, flexible, bulb spray tube may be used, or more complicated atomisers. Dilute alcohol may be used as the vehicle, or ether in some cases; water will frequently answer, and is preferable in most cases. For lung and throat diseases the spray has considerable repute.

For anæsthetic purposes the spray from pure ether or rhigolene should be used, thrown forcibly against the surface.

Rhigolene is one of the lighter products of rock oil distillation. It boils at a temperature of 70°F., and its vapor is highly inflammable; hence the bottle should be kept bottom upwards in a jar of water.

Pure, fresh ether will answer the purposes of "freezing" by spray admirably.

INHALATIONS.

Volatile medicines, or medicines dissolved in volatile menstrua, are used for inhalation. The apparatus is frequently small enough to carry in the pocket, containing packed sponge, punk, asbestos, etc., which is saturated with the medicine. A sal-ammoniac inhaler consists of a three to five ounce broad mouthed bottle, half-filled with dilute ammonia, in which volatile medicines may be placed. Near the throat, within the bottle, suspend a small vial of hydrochloric acid.

A cork perforated by two tubes is closely fitted. One tube gives entrance to, and extends down close to the surface of the ammonia or even dips in. The other is for suction, and ends immediately over the vial of hydrochloric acid. As soon as air is drawn in it becomes saturated with ammonia. It then passes over the acid and is instantly converted into sal ammoniac (chloride of ammonia), passes into the mouth as a dense, "snowy" cloud, and may be ejected either from the nostrils, or the lips. It is bland, unirritating and healing. For introduction into the lungs the chemicals should be very dilute.

Carbolic acid is the most frequent inhalant, having a specific action on ulcerous surfaces.

The steam of hot water in which medicine is dissolved, is a popular form of inhalation. The steam alone is often used.

EXTRACTIVES.

The "fluid extract" is rarely used in Homœopathy. It is a more concentrated form of drug dilution than the tincture. It is now made by percolation, the first proportion of the percolate being set aside, the latter proportion evaporated to very small bulk and added to the first. Glycerine — in varying proportions, but generally from one-fifth to one eight of the bulk of the solvent,— is now added on account of its solvent and preservative properties. Hamamelis is often prescribed in this form. The fluid extract has no advantages, other than smaller bulk.

The solid extract is the product of gentle evaporation of the tincture, and is only obtained from those plants which are entirely non-volatile, and whose active principles are not injured by heat.

By the term basic extractives is understood alkaloids, or chemical products which will unite with acids to form salts.

Acid extractives, or vegetable acids are such as unite with metallic bases, either vegetable or mineral, to form salts. The multitude of Eclectic extractives, ending in *in*, as Leptandrin, must not be mistaken for alkaloids, as they are usually an unanalyzed precipitate, evaporated to dryness.

GRAFTING.

There are some high potencies, only to be procured in pellets, such as Lehrmann's, Jenichen's, Lutze's, and Dunham's, and as it is desirable to possess these in a fluid state, the following process affords a means for its accomplishment.

A certain amount of medicated pellets are placed in a clean vial,

upon which distilled water is poured in such quantity as will be sufficient to dissolve them. When a solution has been formed, it is mixed with dilute alcohol in the proportion of one to ninety-nine, and this in turn with absolute alcohol in the same proportions. This raises the number of the potency at least twice.

Carelessness frequently raises the attenuation of medicine without a correponding increase in the number upon the label or cork. Attention to this matter is of importance.

INCOMPATIBLES.

Medicines frequently antidote each other, when two or more are in the system at the same time, both medicinally and chemically. Chemical changes may produce dangerous combinations. After a patient has been taking iodide of potassium freely the acetate or chloride of mercury (calomel), even in the second decimal, would produce the extremely poisonous iodide or biniodide of mercury. It is well to guard against this even in Homœopathy.

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This work will fill a vacant field in our literature. Those who have examined the MS. speak of it in these flattering terms:

ANN ARBOR, Mich., July 29, 1878.—C. T. HARRIS, M. D. *Dear Sir*:—I have read the MS. of "THE NURSE" with pleasure, and not without profit.

I hope it will find its way into print, because it is not written up beyond the capacity of the class of readers for whom it is designed.

I think the vein of homely, every day sense which pervades it, will win for it a welcome from many a mother, who, while feeling her need for some instruction in nursing, shrinks from the recondite 'science' of an out and out "doctor's book."

To be sure the exquisite felicity that makes the *real* nurse is *nascitur non fit*, but your little book will reinforce the divine instinct of true motherhood, and a better nurse will be the outcome. And what a boon is a good nurse! Let us frankly confess that very often our laurels belong to the unassuming nurse, for we know that our best endeavors are often frustrated by God-cursed Sairy Gamps and Betsy Priggs. Very truly yours, SAM'L A. JONES, M. D.

DETROIT, MICH., Aug. 6th, 1878.—C. T. HARRIS, M. D.:—*Dear Doctor.*—I cheerfully bear testimony to the value of your work on "*Nursing.*" I have examined it in manuscript, and feel confident that nurses will find it just what they need, and medical men will find it to their interest to further its sale and distribution. Truly Yours,

J. G. GILCHRIST, M. D.,
Lecturer on Surgery, University of Michigan.

DETROIT, Mich., Aug 25, 1878.—C. T. HARRIS, A. M., M. D.—*My Dear Doctor:*—I have read the MS. of "*The Nurse*" with pleasure, and I may add with profit also, and am glad to know that you have decided to give the profession, even indirectly, the benefit of your experience derived from years of observation in the sick room. Those only who have seen practice know the advantage and aid derived from skillful and trained nurses; and they also know the increased anxiety to which they are subjected by careless, uneducated and unskillful nursing How often have our best efforts miscarried by incompetent nursing? And how often too has skillful and careful helped a doubtful case out of danger, while the Doctor received the credit of restoring a very sick patient.

Its style is forcible and clear, admirably adapted to the non-professional reader for whom it is intended, and to "Mothers, the Natural Nurses," to whom it is addressed.

I predict for it great usefulness in its own peculiar sphere, and wish you abundant success in your efforts to cultivate this hitherto uncultivated field. Sincerely yours, H. C. ALLEN, M. D.

The manuscript is in the hands of the printer. The date of issue and price will be duly announced in THE UNITED STATES MEDICAL INVESTIGATOR.

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A Treatise on Typhoid Fever,

AND ITS

Homœopathic Treatment

By C. F. PANELLI, M. D.,

Naples, Italy.

Translated with Copious Additions, by Geo. E. Shipman, M.D.

Messrs. Duncan Brothers: The Treatise of Panelli on Typhoid Fever, which you had the kindness to place in my hands, I have perused with the greatest satisfaction. It is not saying too much of the author, translator, and publishers of the work, to state explicitly that they are entitled to the favorable consideration of the entire Homœopathic profession for this most valuable treatise. I had not finished reading the introduction before I felt convinced of the author's ability to give such a transcript of his observations as must redound to the credit of the strictest adherence to Homœopathic principles in the treatment of all forms of Typhoid Fever. His exaltation of the principle *Similia Similibus*, as well as his devotion to the simple operations of nature, exhibit his competency as an observer of facts, which must serve as the ground of reasoning. Unlike many modern practitioners who profess to be Homœopathists, the author exhibits no dissatisfaction with purely Hahnemannian doctrines. He does not treat Typhoid fever simply by its name. He individualizes, under the common name of *Typhoid*, the greatest variety of specific conditions which requires specific treatment. While he gives a very learned and scientific view of the general nature of the disease, and the many names which different authors have given it, he shows conclusively that every case has its own characteristics, and should be carefully studied, and all the symptoms should be noted; for symptoms give utterance to the specific struggle which nature makes in her efforts to get rid of the disease. The use of remedies is to assist nature, and therefore the author maintains that the selection of a remedy whose pathogenesis shows a record of symptoms like those of the disease, is indispensable, and why? because it has been ascertained that the vital effects of the remedy must go with nature and assist her efforts at the very points, organs, or tissues where the battle with disease waxes the strongest. The carrying out of this principle has rewarded the author's efforts in the treatment of all forms of this fever, from the more mild to the most malignant cases. In view of the success which has attended his practice, an example is presented for the consideration of the candid and reflecting votaries of the healing art.

The author's analysis of the etiology of this disease, as well as his lucid illustration of predisposing and exciting causes, add greatly to the value of the work.

In the chapter on the *Symptoms of Typhoid Fever*, there is an amount of valuable instruction which no modern physician can afford to be deprived of. The perusal of this will amply compensate any reader who wishes to know the general symptoms embraced under the head of *Prostration*, *Tonic Contractions*, *Febrilary Contraction*, *Clonic Convulsions*, *Subsultus Tendinum*, *Tremors*, etc.

The treatise on the appearance of the skin and the various symptoms that have sent there, such as the different kinds of eruption, is full of interest. The observations on sleep, the circulation, the paroxysms of fever and sweats, and the variety of moral and mental phenomena, are well calculated to make one familiar with the various phases of the disease. In brief, it may be said that the effect of this disease on the head, eyes, ears, nose and face, mouth, throat, appetite, stomach, abdomen and spirits, is described in chaste and beautiful language, and remarkable for the novelty of the arrangement. The author has given us a record of his observations of the variations and changes which take place in all the organs, secretions and excretions, during a siege of this formidable disease.

In the treatment which he lays down, we find much that commends itself to all who sincerely believe in Homœopathy. It is strictly Homœopathic, and yet the author writes with a liberal and catholic spirit. His reasoning is based on facts. He shows that Homœopathy is a perfect system, and that any and every departure from it in practice is detrimental to the sick, and treason against science. No one can read this work, carefully and candidly, without deriving a vast amount of instruction. Its admirable delineation of Homœopathic principles and practice is a timely rebuke to those who lack patience in the investigation of the capability and power of Homœpathic remedies. I do not hesitate to recommend the work to all physicians as a valuable addition to medical literature.

Very respectfully, A. E. SMALL, M. D.

President of Hahnemann Medical College, Chicago, and Professor of Theory and Practice.

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